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ABSTRACT

In four chapters this monograph examines how states and the nation have defined both an adequate education and the funding level required to provide it, and suggests an approach to the issues of educational adequacy and equity. Chapter 1 defines adequacy in terms of the provision of learning services sufficient to meet a goal and argues that the question of adequacy cannot be separated from the issue of equity. The second chapter reviews historical literature on U.S. public education to find how past policy makers and scholars have conceptualized educational adequacy and equity. In chapter 3 the authors analyze the changing role of the states in providing educational funding, the dollar amounts the states provide, various measures of educational resource inputs, and state funding of supplemental programs in special, bilingual, and compensatory education. Chapter 3 also presents brief case studies of approaches to adequacy taken in Georgia, South Carolina, Washington State, and Connecticut. The final chapter proposes a resource-cost-based approach to adequacy and equity issues. Called the "Resource Cost Model," the suggested framework is a computer simulation model for determining resources needed by districts and expenditures required of states to provide an adequate education (Author/RW)

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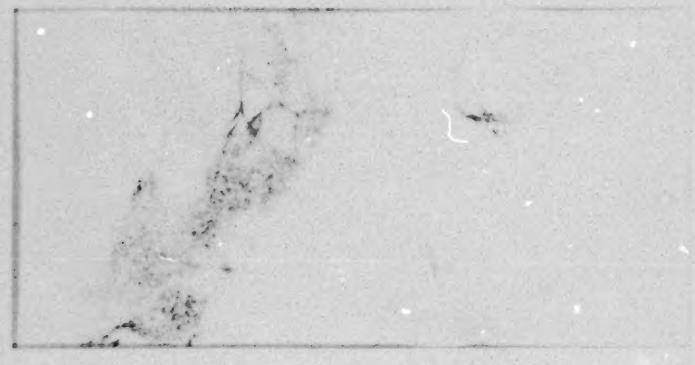

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THE ISSUE OF ADEQUACY IN THE FINANCING OF PUBLIC EDUCATION: HOW MUCH IS ENOUGH?

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Abstract

The four chapters of this monograph comprehensively review alternative approaches to the issue of adequacy in education. The first chapter narrows the definition of adequacy and presents an argument as to why this concept cannot be severed from the issue of equity in a social policy context. Chapter two views the issue of adequacy from a historical perspective and the third chapter presents and analyzes current state approaches toward satisfying this standard. The fourth chapter presents an overview of an approach to the adequacy and equity concepts that is felt to be especially useful to the consideration of these concepts in a public policy context. This resource cost based methodology provides a framework for conceptualizing these standards in developing an underlying rationale for a comprehensive school finance formula.

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INTRODUCTION

What is an adequate education and what level of funding is required to provide it? This is the central question in school finance. The purpose of this monograph is to examine how the states and the nation might go about addressing it.

The four chapters in this monograph provide a comprehensive review of the alternative approaches that have been taken in defining the concept of adequacy in education. Further, these chapters describe the relationship between the concept of adequacy and that of equity in the funding of educational services. This analysis focuses on the current and historical literature in school finance, the evolution of the concept of adequacy in the development of the public education system, and the present state of deliberations of state policymakers and the courts regarding the definition of adequacy and equity in financing education. We examine the interrelationships between all aspects of school funding including general funding formulas as well as categorical programs and we attempt to draw out the implications of these alternative patterns of funding for service delivery.

In the first chapter, we attempt to establish a conceptual foundation for the chapters which follow. We narrow the definition of adequacy as used in the context of this paper and present an argument as to why we do not believe that in a social policy context, the question of adequacy can be severed from the issue of equity. Furthermore, we will argue that this concept remains inevitably ambiguous in the area of education.

The second chapter reviews the historical literature on the development of public education in the United States in order to identify how scholars and policymakers at various points in time have conceptualized the adequacy and equity of school funding. Who paid for public education? Who was eligible for schooling services? How were services delivered? And how much was provided?

Chapter III reviews what states are currently doing and how these various approaches evolved. We examine what alternative approaches are being used in various states to address the issues of adequacy and equity in the funding of local educational services.

The concluding chapter presents an approach to the issues of adequacy and equity that the authors believe to be especially useful to the consideration of these concepts in a policy-making context. It is a resource-cost-based approach to the public financing of education which provides a framework for well-considered public policy in the area of educational resource allocation. The issues of adequacy and equity are considered simultaneously as are the relative requirements of all educational programs. Moreover, the model proposed provides a solid basis for fiscal planning and for estimating the cost implications of alternative program strategies. In effect, the model is a valuable tool for improving managerial effectiveness. Lastly, the implications of this model for federal, state, and local government are described.

CHAPTER I

AN APPROACH TO ADEQUACY IN SCHOOL FINANCE

In this monograph on adequacy in education, we will focus on the issues we believe to be relevant to the consideration of this standard from a public policy perspective. At all levels of social decision making relevant to the provision of public education, two questions prevail: How much should be spent on public education, and once this amount is determined, how should it be allocated among the various educational programs?

Adequate education refers to the provision of learning services sufficient to meet a goal. If these goals were well specified in the area of public education and if the levels of resources that would be required to provide sufficient levels of learning services well understood, a purely rational determination could resolve the questions associated with the issue of educational adequacy. Specific goals could be set in each of the program areas, the resources required to provide the learning services sufficient to meet them could be specified, and the dollar amounts required to purchase the necessary resources in each of the program categories would be summed to derive "adequate" expenditure in the area of public education. However, since there is no social concensus as to the specific outcomes that should result from public education and the technological relationships between educational resources and outcomes are not well understood, it is our contention that the issue of adequacy in educational provision cannot be objectively resolved.

We contend that the question of adequacy in public education must inevitably be addressed subjectively. Furthermore, as is the case with all public allocation decisions, these subjective determinations must ultimately be made in a political context. Rather than specifically stated goals driving public expenditures in the area of education, certain allocations are made in specific or in general programmatic areas, and it is from these allocations that the public goals for education can implicitly be derived. In this sense, every public expenditure on education or related services impacts on the issue of adequacy and is an expenditure that supports a program of adequate education. In deciding to fund some programs and not others and in the levels of support that the various programmatic areas receive, a national perception of educational adequacy is revealed.

Thus, we do not view the question of educational adequacy in a narrow sense, e.g., to simply be concerned with how much is enough in the area of expenditures for general education, but as encompassing all public education expenditures. In this monograph we limit ourselves to pre-collegiate public educational expenditures, but include all expenditures made for programs in the K-12 public education category, regardless of the level of government.

Furthermore, because adequate levels of provision cannot be objectively determined, but are subjective public policy allocation decisions, we will further argue that educational programs should not be considered categorically or separately. This issue should not be confused with the traditional

categorical versus block grant debate concerning the appropriate level of control over allocations. We simply contend that as there is a single public contribution to some unstated but generally accepted set of positive outcomes for society, the appropriate levels of allocation for each of the educational programmatic areas must be considered together rather than separately. Every expenditure has an opportunity cost. Dollars spent on one program generally represent funds that cannot be spent on another. Thus, as public resources are finite, the best determination of where marginal dollars for public education cannot be made without the simultaneous consideration of the relative needs of all of the educational program areas. None of this precludes either a categorical or block grant approach to distributing and employing funds.

Lastly, we contend that the issues of adequacy and equity in education can only be considered separately in a theoretical sense. Given the inevitably subjective nature of these public policy decisions, these two sets of issues cannot be severed. An often cited response to this argument is that a distribution system can be equitable without providing adequate levels of educational services. This implies that if equals get like amounts and those who are systematically different receive systematically different amounts, the allocation system appears equitable even though the amounts received by everyone may be insufficient. But if the goals for public education are unclear and the technology to achieve them relatively unknown, how can it possibly be known if a given allocation is "sufficient to meet stated objectives," or adequate?

As a subjective judgment, the adequacy of a given allocation can only be determined relative to the allocations for other educational program areas. Thus, the equity of the relative distributions to different types of students is inherent to the allocation question. Similarly, the equity of a given system cannot be determined without the subjective judgment of what constitutes a systematic difference in educational need and how many additional educational resources are required to adequately meet these additional educational requirements. Thus, equity cannot be determined apart from the considerations of the relative adequacy of differing levels of provision for children with differing educational needs.

As a subjective policy decision to be made in a political arena, we do not see the appropriate role of analysis to be to determine what is adequate for educaion. The role of analysis, in this instance, is to facilitate policy makers in the subjective decisions they must make about educational expenditures and thereby determine the prevailing adequacy standards for education. In the last chapter of this monograph we describe an approach that we believe provides a framework for better informed public policy formation in education.

1.1 DEFINING THE CONCEPT OF ADEQUACY IN EDUCATION

Often, for lack of a more precise measure, per pupil expenditures are cited as a basis for determining adequacy through a comparative standard. A program of higher quality is presumed to exist in District A as opposed to

District B if A has considerably higher expenditures per pupil. This line of reasoning assumes a causal link or some positive relationship between this dollar measure of educational resources and some set of positive outcomes that are traditionally linked to the educational process. Such anticipated outcomes may include a higher lifetime earning potential, preparation for participation in a democratic society, socialization for the preservation of a way of life or some other form of productive outcome or benefit to the individual and/or society.

As the public funding of education is based on these expected benefits to society, however, a precise adequacy standard would require some measure of these returns. That is, public educational programs can be deemed adequate when they meet the requirements for which they were funded. As society generally fails to obtain total unanimity as to the most appropriate outcomes of educational programs, any resolution of the adequacy of public education from the viewpoint of societal outcomes is difficult to achieve. To the extent that the societal goals for educational programs are only implicitly understood, an output standard of the adequacy of public education will be a matter of individual interpretation of these implicit goals.

One often cited goal of public education, for example, is good citizenship or the development of able participants for the future of our democratic society. As our democratic heritage has perservered over two hundred years and appears relatively far removed from any imminent danger of demise or collapse, current educational provision may be deemed adequate from the viewpoint of a citizenship standard. If a more stringent standard were to be employed in this regard, however, such as the percentage of eligible voters actually participating in elections or some measure of how informed the average citizen may be on a matter of potential political importance, our current system of education might well be determined inadequate in its preparation of future citizens.

Thus, any consideration of the adequacy of a given educational program must immediately address the issue of the appropriate standard. Adequacy is defined as "sufficient to a requirement," and therefore the sufficiency of a given program cannot be assessed in the absence of the requirement that is put before it. While it is assumed that any number of benefits flow from education, these are rarely discussed in the form of specific requirements. Every taxpayer will place a personal definition on these requirements and appraise the adequacy of educational services on the basis of whether these personally defined requirements are being met.

Of course, one may be more specific. Instruction in reading, for example, is surely a requirement of education. And thus, every child that is deemed even remotely capable of any level of reading attainment is provided instruction in reading. It is imagined that the explicit standard is that every child will, in fact, learn to read. A truly explicit standard would, however, define the meaning of "every child" (does this truly mean every single child?) and would give more precision to the term "reading" How well? At what level?

Thus, adequacy is to a large extent a matter of public discretion, a matter of taste. We do not know if public educational standards are equal to

their requirements, because they have not been specifically defined. When some sort of societal weather vane seems to indicate that the current level of educational provision is somehow inadequate or for some reason should be improved upon, societal decision-making bodies often pour more money into this enterprise. But irrefutable evidence of a link between dollars and recognizable measures of societal or even individual outcomes has never been established. Thus, educational expenditure is to a certain extent a matter of preference and a function of some level of belief as to what these expenditures might provide in terms of outcomes.

Many government provided goods and services have an immeasurable quality as to the level of societal benefit they provide. Are the returns "adequate" to warrant the money spent on them? How does one measure the value to the community of a senior citizens' center as opposed to a park for the entire community to enjoy? Overall public expenditures and how they will be allocated for societal goods are decisions made in the political arena. And so it is for education. The adequacy of a given allocation for educational services cannot be considered in the absence of information concerning the overall amount of funds available for public expenditure relative to competing public expenditure requirements.

1.2 SELECTED ECONOMIC AND POLITICAL ISSUES

Policymakers confront two basic problems of allocation. The first involves the solution of the technical problem which identifies the cost of providing any given level of educational services. Ideally policymakers seek to minimize the total cost of providing any given level of educational quality given the prices for educational resources and the composition of student populations with respect to educational needs. This first problem defines the opportunity set facing policymakers. It indicates the level of resources required to achieve some predetermined level of educational services.

The second problem involves the selection of what level of educational services will actually be provided. Given the costs of educational services, policymakers can determine what other kinds of goods and services will have to be sacrificed in order to provide any given level of education. Policymakers establish priorities among education and non-education goods and select that combination which maximizes social welfare, i.e., where the relative marginal values of education and non-education goods equal the relative marginal costs of the two.

However, the problem is actually much more complicated. Ultimately social policymakers must think in terms of the outcomes of the educational process and how they contribute to social welfare. Education has social, political, and economic consequences all of which must be weighed in determining the appropriate level of educational services to be provided within the society. Moreover, education is one of the significant factors in improving the distribution of opportunities of individuals from different social classes or subgroups of the population. Thus, social policymakers are not just charged with the selection of one overall level of educational services, but the appropriate distribution of those educational services among

the subgroups of the population according to their relative contribution to the overall achievement of social goals.

In considering the solution to these basic decision problems, however, policymakers must also recognize the technological interdependencies among the various alternative forms of social investment (see Levin, 1973). That is, the effects of educational investments are not independent of the level of investment (both private and public) made in the overall creation of jobs (reducing unemployment), health care, nutrition, housing, and other forms of informal education (e.g., through parental and other social interactions within and beyond families). These kinds of factors also contribute to the attainment of the overall set of societal goals listed above, which are commonly connected with public education.

The implications are threefold:

(1) Adequacy of education must be thought of as an output goal.

(2) Educational services will be differentially distributed among different population subgroups according to the relationships and the desire for more equitable distributions of life chances and opportunities between services and social outcomes.

(3) Educational services cannot be considered independent of other social investments that are likely to affect the productivity investments in education.

That adequacy is an output goal should be clear from its definition, "sufficient to a requirement." Educational services are adequate only for some purpose. That educational services are adequate for some subgroup of the population is to say that they are sufficient to provide some particular achievement, level of life chances, etc., for that subgroup.

It is important to recognize that equal educational opportunities cannot result from purely educational investments. The very impact of education and the ability of individuals to take advantage of the opportunities afforded by increased educational attainments will be influenced by other family or public investments in health care, nutrition, housing, greater and more equitable employment opportunities and other forms of informal schooling. Students who are in poor health, who do not receive a balanced diet, whose mothers lacked proper nutrition during pregnancy, who do not have access to space for studying, and who are not able to enjoy certain cultural activities within the community will be unlikely to benefit from formal instructional experiences to the same degree as children who have access to more advantaged home and community environments. Similarly, children living in communities suffering 35-40% unemployment may see no reasonable chance of occupational gain resulting from schooling and therefore fail to participate in any meaningful way.

Adequacy is both an economic and political concept. Economic, in that it involves alternative uses of resources toward different outcomes or goals.

Adequacy cannot be defined independently of the opportunity set facing the society--that is, of the alternative ways in which society could allocate its resources. The political component of the concept derives from the process by which society establishes its priorities for various social programs and selects among those programs. Therefore, adequacy cannot be defined independently of the total level of resources available for public expenditure.

Adequacy is not an objective concept to which we can assign an unambiguous value. Adequacy is a subjective concept that must be thought of in relative terms. Goals for the educational system must be established that are realistic given total social resources and the alternative uses to which the funds might be put. It simply does not make sense to think about some standard of educational outcomes for one group without understanding the implications for alternative subgroups. For example, it must be recognized that the increased demands for educating handicapped children (e.g., requirements for the "least restrictive environment" and the development of "individual educational programs"--IEP's) will of necessity draw resources from other educational programs whether regular elementary or compensatory education. This is not to say that these increased demands for serving handicapped children are not just, but simply to point out that they reflect a policy decision which must be made with the full recognition of the opportunities foregone for the alternative ways of employing these funds.

1.3 PUPIL NEEDS VERSUS ADEQUACY: AN INTERPRETATION

The concept of pupil need has often been interpreted as if it could be objectively assessed and measured. In a recent discussion of the establishment of pupil weighting structures across states, (Odden, Berne, and Stiefel, 1979) note the following.

> While the (pupil) weights in some states may reflect actual program cost variations, often times the weights are selected partially on fiscal and political bases and may reflect values or policy trade-offs not relevant to the differing pupil need issue per se. (P. 55)

While we believe that conceptually it is useful to think about programmatic costs separately from political values, we nevertheless believe that the above statement incorrectly interprets the concept of pupil need.

Our assessment suggests that pupil need cannot be measured independent of the value judgments of policymakers (or the constituencies they represent) and that pupil need does indeed reflect a "policy trade-off" with alternative uses of funds.

No amount of research is going to lead to an unambiguous answer to the question of how to define adequacy or pupil needs.[1] All that really can be done is to accurately portray the alternative investment strategies available to society along with the presumed outcomes of those strategies. It is up to policymakers to make the final choices among these alternatives based on the priorities set by the society at large.

1.4 DEFINING THE INGREDIENTS OF EDUCATIONAL ADEQUACY

While adequacy in education is most appropriately conceptualized in terms of the outcomes of the process, for the purposes of implementing a school finance plan, it is an impractical standard. The labor market outcomes and other outcomes related to individual life chances are long-term results of the educational process which are difficult to relate to the present day inputs of the system. Moreover, the more direct outcomes of the process such as cognitive achievement and behavior attributes are very difficult to quantify precisely and are not easily linked to the existing educational technologies. In addition, the educational objectives and outcomes are likely to be different for different student population subgroups. The objectives of education for handicapped children or for children in vocational versus college preparatory programs are likely to differ substantially. While reasonable objectives for children in regular programs might be to learn creative writing and to obtain new advanced quantitative skills, for certain handicapped children this may simply be learning to feed and clothe themselves.

Despite these difficulties of assessing and measuring the outcomes of the educational process, it is still useful for purposes of considering what an adequate education is, to conceptualize the process in terms of the outcomes. Furthermore, the levels of government charged with education allocation decisions must begin to develop a structure and information system that will enhance the ability of policymakers to observe the linkages between educational outcomes and the ingredients of the system. This may require a highly structured, though flexible, system of shool finance based on the specification of the ingredients of an adequate education. This kind of a system could facilitate decision making at all levels (i.e., federal, state, and local) and provide a foundation for funding. Policymakers must first know what the choice set looks like in terms of the ingredients of the system, and second they must devise a mechanism for choosing among the possibilities with some notion of what the outcomes of the system are. This kind of information system could potentially improve economic decisions by setting out the cost consequences of various educational strategies as well as the political judgments regarding which strategies might be preferred to reach particular educational or social goals.

We will discuss these questions in more detail in the final chapter of this monograph. Prior to that presentation, Chapters two and three present a historical context to the adequacy issue and a discussion of how the states are currently dealing with the questions relative to the adequacy standard.

CHAPTER 2

THE EVOLUTION OF EDUCATIONAL ADEQUACY

The concept of adequacy in education has historically lacked clarity. It has referred to the quality and quantity of school resources, the content of curriculum, the scope of the populace to which it should be made available, and the quality and nature of the outcomes of a public education system. Adequacy is a dynamic concept. Its definition, constantly in flux, is redetermined in classrooms, courts, school board meetings and legislatures across the nation on a daily basis. It is a concept that cannot be defined independently of available resources or the tastes and preferences of the citizenry.

As examples of the evolutionary nature of this process, in the last few years: the Supreme Court has agreed to rule on whether the right to a public education is extended to the children of illegal aliens; the Third Circuit Court of Appeals has just ruled that because it is impossible to separate the social, emotional, medical and educational problems of a handicapped child in Delaware, the state school system is responsible for providing the twenty-four hour residential facilities required for her care; the struggle to determine how far bilingual programs must be extended to meet the requirements of the Fourteenth Amendment and the Civil Rights Act of 1964 continues; eighteen states have enacted laws or regulations for pupil competency testing with some form of mandatory pass feature in an attempt to regulate educational outputs; and the public schools are increasingly being seen by the community at large as failing in the provision of adequate educational offerings, as is evidenced by recent Gallop polls on education and the increasing flight to the private schooling sector.

Webster's Third New International Dictionary defines adequacy as "fully sufficient for a specified or implied requirement." Thus, adequate financing is that which is sufficient to meet the specified or implied requirements of the public educational system. Exactly what constitutes these requirements is unclear and the subject of much debate. The issue cannot be considered in a vacuum or resolved in the absence of a definition of the requirements of public education.

The history of education reveals an ever expanding set of concepts as to what constitutes an adequate education. This expansion is less representative of a single explicit commitment to education, however, than of an accumulation of the results of many lesser policy debates over what social and educational services should appropriately be placed within the jurisdiction of the public schools. The evolution of the concept of adequacy has been incremental in its growth.

The first section of this chapter lists several historical connections between the concepts of adequacy and equity. The second section considers the evolving definition of adequacy in education. In

the third section, the evolution of adequacy in the writings of educational theorists, the courts' involvement with the issue of educational adequacy, and the federal impact on national perceptions of appropriate adequacy standards are discussed. The final section summarizes this chapter.

2.1 HISTORICAL LINKAGES BETWEEN THE CONCEPTS OF ADEQUACY AND EQUITY IN PUBLIC EDUCATION

In considering the concept of adequacy, one is always faced with the question, "To do what?" A similar question directed at equity issues is "Equitable for whom?" This latter question was the basis for one of the earliest ties between these two concepts. The issue involved the equity of taxing individuals to provide free schooling for their neighbors. That is, who pays, and for whom? A second tie deals with the often-considered societal objective of public schooling to foster equal educational opportunity. Can a public schooling system, with considerable inequalities of resource distribution, be adequate in terms of its societal requirements? A third link deals with the historical tendency of educational decision makers to guage the adequacy of a schooling system, for lack of a better measure, through comparison with equivalent systems. For example, policy makers in one state will often compare the levels of expenditure or teachers' salaries with those in other states to assess the "adequacy" of their school funding.

Perhaps the earliest link between the concepts of adequacy and equity in the provision of public schooling was the inequity many citizens found in the requirement to provide funds for the schooling of their neighbors' children. Many considered educational practices to be quite adequate without provisions for public schooling. The 1840 census, for instance, lists 90 percent of the white adults as literate, and the 1860 census shows a 94 percent literacy rate among this same group. Moreover, the only slight differences that were reported in the rates of literacy between the older and younger men in these census reports indicates that some instruction had been widespread even early in the 19th century. Tyack and Hansot write that

> Long before the common school crusade of the mid-nineteenth century, Americans were among the most literate people in the world. Schooling was widespread in the Northeast well before the rise of industry, before state action in mandating public education, before compulsory attendance laws (Tyack and Hansot, p. 49).

Many Americans were quite satisfied with existing educational structures. While it is tempting to assume that the values of the past largely mirror those in existence today, the requirement to provide schooling at public expense was actively contested and disputed. Tracing the history of public schooling in America, one set of researchers commented, "the struggle to make education free to all was a long and

bitter one and was not entirely won until well past the middle of the nineteenth century" (Mort, Polley and Reusser, p. 6).

A second link between adequacy and equity is found in the often-cited sentiment that public education should, in some way, enhance equal educational opportunity. The social benefits of public education are perhaps best understood through the consideration of the historical origins of public education. What, for instance, motivated diverse sets of communities to agree to tax themselves for the provision of common schools at a time when this idea was new and even somewhat revolutionary? While the ideas of the early proponents of education will be presented in greater detail in a later section of this paper, one objective was clearly the provision of equal educational opportunity for all.

Thus, one standard for appraising the adequacy of public education is the degree of equity inherent in the system. While this standard has proven to be as elusive as adequacy, it has been an especially salient topic over the past thirty years. A system of public schooling that is grossly inequitable so as to retard movement toward equal educational opportunity may be regarded as inadequate in meeting this societal requirement.

The third link is the historical trend to measure the adequacy of an educational system through comparison with other systems. The spread of many educational innovations may have been fostered by this comparative method of assessment.

In his history of education in the state of Texas, Eby states:

> The majority of the people had no knowledge whatever of genuine standards of educational achievement. They were firmly persuaded that their schools were among the best in the entire nation. To arouse in them a desire for better schools the leaders of education resorted to a series of comparisons of the school conditions in Texas with those in other states. In his first biennial report, State Superintendent Lefevre published some arresting statistics based on the educational ranking of the various states in 1900. These facts and comparisons were widely copied, and thoughtful citizens were sharply aroused by the discreditable position which Texas occupied (Eby, p. 218).

Intrastate evaluation was also often made on the basis of comparison. Whether districts were at or above the average per pupil expenditure level was often the basis for assessing their adequacy. This trend has now carried over to school finance litigation. The adequacy of the resources received by individual districts is seldom considered in its own right, but rather on the basis of comparison with other districts in the state. Large intrastate disparities in expenditures per pupil may be used as evidence of the inadequacy of the overall system with little consideration of whether these disparities might, in some cases, be

justified on the basis of providing adequate educational services for children with considerably different educational needs.

One further note of interest concerning the historical interplay of these two concepts is their reverse relationship in driving increased educational expenditures and overall state involvement in the nineteenth as opposed to the twentieth centuries. In the nineteenth century, campaigns for increasing the adequacy of schools in individual states often resulted in the adoption of state standards. But because the poorest districts were often unable to meet these standards, despite high levels of effort, many states were forced to move toward some form of foundation support, thereby enhancing the equity of the state system.

In the second half of the twentieth century, equity became the more salient issue. The result of the considerable level of activity in this regard, through legislative and judicial channels, has been a heightening of the overall level of adequacy in the state systems. The drive for greater equity in the provision of public schooling has often resulted in low resource districts being leveled up to the expenditure levels of wealthier districts. In this way few, if any, districts lose state support as a result of school finance reform. It has also caused the general definition of what constitutes an adequate education to be broadened and has expanded the categories of children entitled to receive an education at public expense.

Although the emphasis of this monograph is on the issue of adequacy in education, it is our view that the issues of adequacy and equity cannot be dealt with independently of one another. Thus, both issues are included where this separation is considered inappropriate.

2.2 THE EVOLVING DEFINITION OF ADEQUACY IN EDUCATION: From the First Public Schools To The Modern Era

In the era prior to the provision of public education, the training of children was considered, for the most part, to be the responsibility of individual families. The labor of children was valued and it was through this constructive work that children were supervised as well as trained for the relatively limited requirements of their adult lives. But there are traces of the weaknesses of this system. In the Pennsylvania Law of 1683, the requirements of parents are specifically defined as is the penalty for negligence in the training of children:

> All persons in this province, having children, shall cause such to be instructed in reading and writing, so that they may be able to read the scriptures and to write by the time they attain to twelve years of age; and that then they be taught some useful trade or skill...in case such parents shall be found deficient in this respect, every such parent shall pay for every such child, five pounds... (Cubberley, Readings in Public Education in the U.S., p. 34).

The mere enactment of this law implies a community concern over the neglect of children.

But because laws such as these were largely unenforceable, leaving considerable and growing numbers of children untrained and unattended, the first forms of public schooling appeared as free schools for the children of the indigent. While this extension of charity was a considerable irritant to some of the propertied citizens who were forced to pay for it, it was the more radical notion of the provision of free schooling for the rich and poor alike which was most responsible for raising the issues of equity for taxpayers and the appropriate limitations on the spread of public educational services.

The early attitude of local officials toward public schooling was that mere provision met the obligation of the state. As with the church, attendance was expected, but abstention was tolerated if not respected. This outlook was soon to change, however, and the next step in the evolving scope of public schooling was mandatory attendance. The first compulsory attendance law was enacted by Massachusetts in 1852. Children between eight and fourteen were required to be in school at least twelve weeks each year. While the exceptions to this requirement and the difficulties of enforcement practically nullified the law (Martin, p. 212), the establishment of this principle marks an important milestone in the expanding scope of public education. Sixty-six years later, when Mississippi adopted compulsory attendance legislation in 1918, this standard had been extended across all forty-eight states.

Prior to 1900, the primary concern in most states was the attainment of a minimal degree of elementary education for all and the abolishment of fees. The focus of attention was next turned to the establishment of minimal state standards which were enacted through the vehicles of legislation, regulation, and accreditation (Burke, p. 395).

It is the drive toward standardization that marks most significantly the ensuing battle between state regulation and local preferences as to what constitutes an adequate education. By the 1960's, the federal government had also become embroiled in this controversy which is still very much alive today. For the most part state education agencies were originally established for the rather limited purposes of apportioning state funds and obtaining reports as to how these funds were being spent. But as is the case today, the more states became involved in local education through the provision of funds, the more potentially embarrassing large statewide disparities in school attendance, length of term, qualifications of teachers, physical facilities and overall expenditures became. This led to further involvement and consequently focused even more attention on the disparities. An early realization in some states was that minimal state support, without some form of local expenditure ceilings, would be insufficient to significantly narrow the gap between the high and low wealth districts. One early schoolman in Wisconsin stated that the "local educational reformers chafed under the

spending limitations imposed on school districts by the territorial lawmen..." (Tyack and Hansot, p. 76).

Some states attempted to deal with disparities in educational offerings at the local level, by imposing state minimal standards, but still leaving the full burden of support with the local community. This approach led to very unequal tax burdens. Even with a very great tax effort, the poorest districts were often unable to meet these standards. Thus, some form of state assistance was required.

This was the case in North Carolina where a guarantee of at least six months of schooling at public expense was granted to every child in the state by an amendment to the state constitution. While it was expected that this requirement would be funded at the local level, it was soon realized that many districts were unable to support it. Reluctantly the state agreed to finance this minimal program, thereby inadvertently initiating a "foundation program."[2] The way in which the state managed this new financial burden, however, gives evidence of the nature of contemporary definitions of adequacy as products of compromise constrained by available resources. To finance this longer school year across the state, state taxation was increased, but costs were also reduced by lowering state minimal standards in teacher salaries and class size (Cubberley, Public Education in the United States, p. 100). Thus, the potentially amorphous nature of this concept is demonstrated. Expanded in one direction, it is retracted in two others, with the result of little change in the total mass.

The successful drive for universal public education was followed by the spread of public high schools, which became more numerous after the Civil War. However, property owners did not always suffer this extension of publicly funded schooling silently. In Indiana, a group of taxpayers in one district challenged the right of local officials to extend public schooling beyond the elementary level in court. In the Kalamazoo Decision of 1874, a landmark ruling, the court stated that "there was no limit to the scope or level of studies a local school board might provide for the children of the district" (Cremin and Borrowman, p. 92).

In this way, the gates were opened to the spread of the public high school. As communities and states watched their neighbors to see if they were staying abreast of the latest educational developments and expansion, it soon became apparent that there could be little pride in communities lacking a public high school. Beginning in 1890, the high school population doubled every ten years and some states began including at

least some high school as part of their definition of minimal training to be required of all the state's children (Cremin and Borrowman, p. 92).

As high schools became commonplace, schoolmen began rethinking the competitive ethic in education which had been traditional at the secondary level. As high schools became more commonplace, it was questioned whether these new schools would attempt to weed out students, so that the high school diploma might mark the educationally elite, or attempt to meet the expanding needs of these new students who were attempting to prepare for future lives in an increasingly complex society. The New York City Superintendent of Schools answered this question in no uncertain terms in 1910:

> No longer can it be maintained that education at the public expense is to be directed solely to secure "the survival of the fittest," or even of the fit. One of the prime objects of public education is to develop each child, fit or unfit, to his highest capacity, as far as conditions will permit, for the work and enjoyment of life (Mann, pp. 19-20).

The comprehensive high school and curriculum reform were the next waves in the expansion of education. In 1918, the National Educational Association called for a comprehensive high school that would "recognize the role of ethnicity in a pluralist society" (Mann, p. 20).

Prior to this time, the high school curriculum was molded primarily with college preparation in mind, but with increasing enrollments, the need for a new emphasis was seen -- the fullest possible development of the child. It is interesting to note the high moral purpose and Americanizing function of the public schools as a primary motivation for this educational expansion. Arthur Mann describes this historic NEA report:

> Behind these principles lay the recognition that the school must take over roles that traditionally had belonged to the family. This was all the more necessary in this country, the N.E.A. noted, because America had no "common heredity" or "established religion" (Mann, p. 20).

To illustrate the nature of this curricular expansion, the NEA specified certain objectives which they referred to as the "Cardinal Principles of Secondary Education." Among the new subjects proposed were worthy home-membership, worthy use of leisure, and ethical character. John Dewey was to carry this general theme into ensuing decades under the banner of the progressive movement in education (Mann, pp. 19-20).

The spread of the public high school is perhaps the last of the grass-roots developments in the expansion of public schooling across the states. From this point on, state, federal and judicial involvement significantly increased. Before moving into this era, however, it is appropriate to note that the expanding provision in public schooling up to

this time had been split on at least three important axes: male/female, urban/rural, and the Southern versus all of the other states.

While there is no direct evidence that the education received by girls was significantly different than that received by boys in the early public schools, it can be imagined that some differentiation began to occur in the earliest public high schools. Clearly women were not expected to lead and therefore were not being prepared for the kind of life confronting men. Horace Mann and Henry Bernard were considered pioneer advocates of education for women, for instance, when they argued in favor of education for women, that they might realize their destiny of a "devine mission to teach," even though both discouraged women from attempting to secure suffrage and equal opportunity with men in all professions (Curti, p. 177). In higher education, a significant breakthrough was attempted at the University of Virginia whereby a "certificate of proficiency" could be awarded to women who worked under the supervision of the regular professors of the university. However, they would still not be permitted to attend lectures or the exercises of the university. As only one woman applied, the plan was soon abandoned (Heatwole, pp. 256-257).

Women were commonly hired to teach in the primary schools, while men were far more commonly found in the higher schools. The wage differential was considerable between the sexes, regardless of the schooling level or the subjects taught. The norm in the state of Massachusetts in 1316 is reported thusly:

> The wages of the teachers varied widely. Ten or twelve dollars a month was common, though in rare cases, in wealthy districts, a man of experience and more than usual culture earned twenty. Women received from four to ten dollars (Martin, p. 107).

A second major dividing line in the adequacy of early public schooling was between rural and urban schools. Unlike the present era of flight from the inner-city schools, the early urban schools were generally far superior to their rural counterparts. Positions in city school systems, were often reserved only for applicants who had proven themselves in a rural district. The nation's early city schools averaged almost twice as many school days per year as the country schools, and city teachers were much better paid. Using estimates made by Lewis Solomon, the direct average resource cost per public elementary school student in 1880 was $6.21 in the rural schools as compared to $15.54 in the nation's urban schools (Valente, pp. 56-59).

In 1913, the Texas State Superintendent commented:

> It is recognized by everybody that the country schools are not as efficient as the town and city schools;... Not only are the country schools poorly organized, and in many cases inefficiently taught, but the attendance (is) only 54 percent of the scholastic population in

the rural districts, while these rural districts comprise 70 percent of the total scholastic population of the state (Dexter, p. 224).

In reference to the dissemination of the Peabody Fund[3] in the South, Heatwole writes in his History of Education in Virginia (Heatwole, pp. 238-240):

> Dr. Sears was wise in distributing the (funds) to the cities in order that they might demonstrate the effectiveness of public education for all the children. These city systems became the models for the larger towns and the more progressive counties to copy (Heatwole, p. 278).

A third predominant axis for dividing the adequacy of early educational offerings in this country is the southern states versus all the remaining states. Prior to the Civil War, there was some resistance to the adoption of the "yankee system" of public education and after the war, the impoverished condition of the South greatly retarded educational advancement. Heatwole describes their plight:

> In the effort to organize...(a) system of public schools adequate to the needs of the entire population, the southern states, were under a weight of debt beyond their ability in their impoverished condition to pay (Heatwole, p. 212-213).

The early impetus for public schooling was largely based on local enterprise. An early Wisconsin schoolman states the opinion that:

> Sometimes state laws or directives about public schools operated not as a stimulus to local effort, but as a drag on it. Tax-supported schools were not created by the territorial legislation; it would be much nearer the truth to say that they developed it in spite of such legislation (Tyack and Hansot, p. 76).

But in the modern era, the state and federal governments as well as the judiciary have become increasingly involved in education and have become primary forces in expanding the concept of adequacy in public education.

Let us now turn to an examination of three important forces behind the continued expansion of education: prescriptions provided by educational theorists, mandates by the courts and legislative action.

2.3 ADEQUACY IN THE MODERN ERA

2.3.1 The Interplay of Adequacy, Equity, and Financial Support Among The Educational Theorists

As there is no mention of education in the United States Constitution, it is an area over which the states have the right to assume primary responsibility. And even though the spread of public education was largely a grassroots phenomenon, historically initiated, funded, and

controlled at the local level, each of the fifty states has accepted responsibility for the provision of public education. For the most part, however, the states were quite willing to leave education as a matter of local perogative until the disparities within the statewide systems, as well as other forces generated sufficient pressure to necessitate their doing otherwise.

In the year 1890, Mort estimated that nearly a quarter of all public school revenues was derived from federal and state sources. Although not separated out in this study, the federal involvement was quite small as evidenced by the 0.3 percent federal share of school revenue in 1930 (Johns, Alexander, and Jordan, p. 16). This suggests that almost all of the 25 percent came from state sources. But, as much of these state monies came from the federal land grants of 1785 and 1787, twenty-five percent is probably a misleading indication of the actual level of state involvement at that time. Local effort remained the driving force behind educational expansion for the next forty years. With basic and other minimal state aid formulas in place, the states, for the most part, maintained a laissez-faire approach to local education. Although state expenditures on public education remained fairly constant through 1930, local contributions increased sufficiently to drop the national percentage of public school revenues derived from state and federal sources from 23.8 percent in 1890 to 17.3 percent in 1930 (Johns, Alexander, and Jordan, p. 16).

By the early twentieth century, state policy makers were seeking a body of theory that might guide them in the formulation of school finance policy. How might they take a more methodical approach to issues of state involvement in local public education? At this same time, from the relatively new academic discipline of education, university professors and theorists were attempting to address these relatively new public policy issues in school finance.

Ellwood P. Cubberley wrote the first major work on the theory of school finance in 1906 as his thesis requirement for the Ph.D. degree at Teachers College. School Funds and Their Apportionment, which evolved from this work, was a first attempt at formulating basic principles of school finance. Cubberley has been described as the first of the educational technocrats.[4] He led a wave of university and foundation leaders who believed in a single best approach to education. Having derived a set of standards for education, these technocrats attempted to apply this "template" to each of the states in the nation.

Cubberley underscored the state's responsibility for the provision of educational services and the establishment of certain requirements. "While leading the way open for all to go beyond these financial requirements, the state must see that none fall below" (Cubberley, State School Funds and Their Apportionment, p. 16). Cubberley also pointed out that because of unequal distributions of wealth, very unequal tax burdens can result from the maintenance of state minimal requirements and that these would best be equalized by a state school tax. He further stated

that a state system cannot be adequate to meet the requirements of equalization without "a wise system of distribution" (Johns, p. 17).

The next theorist of considerable import was Harlan Updergraff, a professor of education at the University of Pennsylvania. He recommended that the extent of the state's contribution to public education in a given community should be dependent on local action. Updergraff's formula provided the same total revenue to districts making identical tax efforts, regardless of their wealth. Thus, the quality of education was made dependent on the effort and not wealth. This approach fell into disfavor for many years until resurrected by Coons, Clune, and Sugarman (1970) under the banner of "district power equalization." This concept is currently being used in some states as a method of heightening local incentives for quality education.

One of the most influential of the early theorists was George D. Strayer. As an advocate of equal educational opportunity, he opposed rewards for local effort, finding these two concepts to be incompatible. In 1923 he wrote:

> Any formula which attempts to accomplish the double purpose of equalizing resources and rewarding effort must contain elements which are mutually inconsistent. It would appear to be more rational to seek to achieve local adherence to proper educational standards by methods which do not tend to destroy the very uniformity of effort called for by the doctrine of equality of educational opportunity (Strayer and Haig, p. 175).

Paul Mort, a student of Strayer's who became an important force in the development and implementation of school finance theory, attempted to define a satisfactory minimum or an adequate educational program as part of his doctoral dissertation. He set out three basic elements of a minimum program: (1) Funding for a defined set of educational activities based on what is found in most or all of the communities of the state. (2) Funds for all special expenditures districts incur due to causes which are essentially beyond their control, e.g. necessary small schools. (3) Funding for unusual local conditions requiring additional educational offerings, e.g. need for basic instruction in the English language. These provisions should be guaranteed by the state in satisfying a standard of equal educational opportunity.

Mort was especially far-sighted in presenting the second and third elements of his basic program. The technology for measuring costs "over which the community has little or no control" and the programmatic needs of children requiring special additional educational offerings is just now being refined and incorporated into some state formulas. (Florida's school finance formula, for instance, includes an index partially adjusting aid to account for local variations in the cost of living.) Mort also advanced the implementation of accounting for variation in

student costs through the concept of differing funding "weights" for pupils with special educational needs.

Henry C. Morrison was an early proponent of a single state schooling system. He noted the gross inequities in local expenditures and concluded in 1930 that schemes allowing local autonomy were bound to fail in the provision of an adequate and equitable statewide system. While these ideas were then, and remain today, an anathema to staunch supporters of localized control, statewide systems do reluctantly, but inevitably, seem to be moving in the direction forseen by Morrison in the search of for adequate and equitable standards for educational provision.

The overall expansion of the public education sector over the forty year span, 1930-1970, was quite substantial. Enrollments increased 99 percent and overall expenditures in 1969 dollars increased 700 percent, representing a 302 percent increase in per pupil expenditures. As a percentage of the gross national product, the total expenditures of pre-collegiate public schools increased 90 percent from 2.2 percent in 1929/1930 to 4.2 percent in 1969-1970 (Johns, Alexander, and Jordan, p. 19).[5] The state share of school revenues, after a period of decline, began to reverse around 1930 and rose over the next twenty years from 17.3 percent in 1930 to 39.8 percent in 1950. From 1950 to 1970 the state share leveled off significantly, only increasing .9 percent to 40.7 percent of total school revenue (Cubberley, Public Education in the United States, p. 9). During the 1970's, the school finance reform movement was at least one factor causing the relative state share of educational expenditures to begin a new climb to 48.1 percent (NEA estimate from the Standard Education Almanac 1980-1981). These increased expenditures were the result of a broadening national conception of adequate educational standards. It is interesting to note that the most significant theoretical work governing this large expansion of state involvement in public education was written prior to 1930. The method of allocating these increased resources from the state to local school districts was considerably guided by the work of these early educational theorists.

2.3.2 Adequacy As Defined By the Judiciary

Judicial involvement in educational policy making began in earnest in the last decade. This development is quite relevant to any discussion of adequacy because of the profound influence of the courts in expanding and providing definition to this imprecise standard. The courts have even had a much broader effect on the formulation of educational policy than would be indicated by the long list of litigation affecting education over the past twenty years. The messages contained in these rulings, although sometimes confusing and contradictory, have been sufficiently clear to encourage an accompanying flurry of legislative action and policy development.

Early judicial involvement in the schools focused primarily on the rights of taxation. Indiana courts, for example, upheld the state's discretionary power to collect and disburse taxes for educational purposes in Springfield v Quick, (63 US 56) 1859. In 1874, a Michigan court ruled that tax revenues could be used to support a public high school (Stuart v School District No. 1 of Village of Kalamazoo, 30 Mich 69 [1874]). In Robinson v Schenck, 1885, (N.E. 698, Ind.) the legality of an Indiana statewide tax that had the effect of redistributing aid to all of the state's schools was upheld. In most of these early cases, the plaintiffs were taxpayers. The courts directed little attention to the rights of children to receive an adequate education or the obligations of the state in the area of educational provision.

Brown v Topeka Board of Education, (247 U.S. 483 [1954]) was a landmark case in reorienting the judicial focus toward the obligation of the state in providing adequate educational offerings. The court ruled that a segregated education is inadequate and denies students the equal protection under the law guaranteed in the Fourteenth Amendment. "Substantially equal" facilities do not, in themselves, provide equal educational opportunity. Stressing the importance of education in contemporary society, the rights of the child, and the obligations of the state, the Supreme Court declared:

> Today, education is perhaps the most important function of state and local government... In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education. Such an opportunity, where the state has undertaken to provide it, is a right which must be made available to all on equal terms (347 U.S. 483 [1954]).

The plaintiffs in McInnis v Ogilvie, the first school finance case to be decided at the appellate level, also relied on the protection of the Fourteenth Amendment when they argued that equal protection is denied when public funds are apportioned without regard to the specific educational needs of students. The federal district court ruled against the plaintiffs on the grounds that there is no constitutional right to an educational funding system that is based entirely on pupil needs or absolute equality in per pupil funding. As no manageable standard for measuring educational needs and costs was seen at that time, the controversy was ruled nonjusticiable.

Serrano v Priest, 1971 (5 Cal. 3d 584) represented a considerable breakthrough for school finance reformers. In this case the plaintiffs made a concerted effort to circumvent the "nonjusticiable" traps that had been confronted in previous attempts to bring relief from vast statewide disparities in the provision of educational services. The case was again based on the equal protection clause of the Fourteenth Amendment. The plaintiffs contended that the California school finance system was discriminatory because educational spending by local districts was largely determined on the basis of local property wealth, a "suspect

classification." They further argued that as education was a "fundamental interest," the state must be able to show that there was a "compelling interest" to justify this discriminatory scheme, and also that no less discriminatory scheme could also satisfy this compelling interest.

The defendants in Serrano argued that the inapplicability of the equal protection clause in such cases had already been determined in McInnis. but the California Supreme Court ruled that the plaintiff's arguments were significantly different than those presented in McInnis because an acceptable and justiciable standard had been presented. The California school finance plan was found to be in violation of the equal protection clauses of the California and the United States Constitutions.

The success of the Serrano approach signalled the charge for school finance reformers across the nation. Fifty actions were filed in thirty-one states, most following the legal arguments initiated by Serrano (Levin, p. 51). But in one of these cases, San Antonio Independent School District v Rodriguez, (411 U.S. 37 [1973]), the state of Texas appealed to the U.S. Supreme Court, leading to a ruling that would partly quiet the storm of activity generated by Serrano. In this five to four decision, it was held that education is not a fundamental right under the U.S. Constitution, and that the Texas system did not discriminate against an identifiable class of poor people, but against property poor school districts which do not constitute a suspect classification.

Of greatest relevance to the discussion of adequacy is a section in the Rodriguez Supreme Court ruling dealing with the state's responsibilities in the provision of educational opportunities. The court rejected any state requirements for equality of inputs, adopting an output standard in the form of a minimally adequate education.

> "Whatever merit appellee's argument might have if a state's financing system occasioned an absolute denial of educational opportunity to any of its children," there is no basis for the charge of interference with fundamental rights "where only relative differences in spending levels are involved..." Furthermore, it can not be charged that the system fails to provide each child with an opportunity to acquire the "basic minimal skills necessary for the...rights of free speech and full participation in the political process" (Rodriguez, 411 U.S. 37).

As evidence of the provision of adequate minimum standards, the ruling cites the minimal state resource requirements from the Texas Education Code that apply to all the school districts in the state. These specify a standardized student to teacher ratio of twenty-five to one for the purpose of state support, various other professional personnel requirements, and the funds to be provided for transport and textbooks. Thus, Rodriguez establishes a precedent for minimal standards in the provision of specific resources and an output standard which places the burden of proof on the plaintiffs to demonstrate that the system fails to

provide the basic skills necessary for exercising the rights of citizenship.

Rodriguez slowed but did not halt the school finance reform movement. Less than a month after this ruling, the New Jersey Supreme Court held that the state school finance system of that state violated, not the equal protection clause found invalid by Rodriguez, but the state education clause which demanded a "thorough and efficient" system of free public schools. Thus, Robinson v Cahill (118 New Jersey 1972) led to a new set of cases charging that state school systems violated "ample" or "basic" requirements as contained in state education clauses. Rodriguez also did not foreclose the possibility of successfully challenging school finance schemes on the basis of state equal protection clauses as almost all state constitutions make explicit provision for education. In one of the most recent of these cases, the West Virginia Supreme Court of Appeals in remanding the case of Pauley v Kelly (255 S.E. 2d 859 [W.Va. 1979]) for further evidentiary development offered the following description of a "thorough and efficient" system of schools:

> It develops, as best the state of education expertise allows, the minds, bodies and social morality of its charges to prepare them for useful and happy occupations, recreation and citizenship, and does so economically (Piele, p. 273).

The distinction between the Serrano case on the one hand, and the Rodriguez, Cahill, and Pauley cases on the other that is most relevant to this discussion is the standards of adequacy and equity in public education adopted in each set of cases. Only Serrano demands equal educational resources (or expenditures) in "...amounts considerably less than $100 per pupil." An output standard is adopted by the others. In these cases disparities of expenditure are tolerable if adequate minimum standards are upheld for all the state's children. What standards govern this minimum is still, for the most part, not well specified. Rodriguez seems to imply an output standard based on the requirements of responsible citizenship in a free society while Cahill adds the responsibility of preparation for a future role "as a competitor in the labor market" (62 NJ 473,515,303 A.2nd 273,295 [1973]). Pauley extends these output measures to include such seemingly nonjusticiable standards as preparation for "useful and happy occupations" and the development of "social morality" (Piele, p. 273).

A major problem with such output measures of adequacy in education is their measurement. How can the compliance or lack of compliance with such nebulous standards be determined? Rodriguez seems to imply a negative standard. As minimal standards for the allocation of educational resources are in place, there is no clear basis for the claim that an "adequate minimum" program is not being provided. The Serrano trial court, on the other hand, ruled the adequacy of education to be constitutionally irrelevant. It is the quality (or level) of the

education in terms of expenditures relative to other districts in the state that is the relevant standard (Levin, p. 85).

School finance reform has been an area of intense judicial activity over the past decade. Adequacy has been a central focus throughout this movement as the courts have attempted to address such questions as what constitutes a thorough and efficient educational system, what minimal standards satisfy the child's right to inclusion in the state's public education system and whether the adequacy of outcomes as opposed to the "quality" of inputs is the most appropriate standard for the measurement of adequacy.

School finance reform was not the only area, however, in which the courts of the seventies had a significant impact on the issue of adequacy in education. Expansion of the requirements of public education were being tried through litigation in at least four other significant directions in the 70's and early 80's. The first three areas are bilingual education, education for the handicapped, and the right of children of illegal aliens to a public education. A fourth issue, educational malpractice, potentially has far reaching future implications for the issue of adequacy.

Lau v Nichols 414 U.S. 563 (1974) signalled a significant expansion of the requirements of public education in the area of bilingual instruction. Eighteen hundred Chinese-speaking pupils claimed that the San Francisco School Board was in violation of the equal protection clause of the Fourteenth Amendment and the Civil Rights Act of 1964 in failing to offer them a special compensatory language program. Ruling in favor of the plaintiffs, the court said that school districts receiving federal aid must provide special instruction for non-English speaking students whose education is severely hampered by this language barrier, at least when such students are in substantial numbers in a given school district. In this case, as in the other expansions of educational requirements initiated by the courts, the actual implementation of these expanded services resulted in a considerable aftermath of policy debate. One set of guidelines proposed under the Carter administration was quickly swept aside by the Reagan Education Secretary, Terrell Bell, with the charge that they were "harsh, inflexible, burdensome, unworkable, and incredibly costly" ("Bell Withdraws Proposed Bilingual Regulations," p. 3). Two months later, however, a district judge marched ahead in implementing standards for the state of Texas. Refusing to wait for action from the legislature due to the "pressing need to institute meaningful relief without unnecessary delay," he ordered K-12 bilingual education for all of the state's children identified as being of limited English proficiency ("Judge Requires K-12 Bilingual Education in Texas Schools," p. 2). The ambiguity surrounding such issues is evidenced by the Supreme Court ruling in Lau. Despite finding a violation of a guaranteed constitutional right, the ruling states that relief is required only when limited and non-English speaking students exist "in substantial numbers."

A second area of court involvement in expanding the requirements of public schooling is in the educational rights of the handicapped. Pennsylvania Association for Retarded Children (PARC) v Pennsylvania (343 F. Supp. 279 (E.D.Pa. 1972)) represented the "first legal breakthrough for the handicapped" (Levin, p. 56). The plaintiffs introduced evidence that all mentally retarded persons are capable of benefiting from special training, and the court ruled on this basis that a substantial number of the state's children were being denied their right to a public education. A consent agreement resulted whereby the state recognized its "obligation to place each mentally retarded child in a free, public program of education and to provide training appropriate to the child's capacity..." (Levin, p. 57).

This focus of attention on the educational rights of the handicapped led to federal legislation in the form of Public Law 94-142 in 1975, guaranteeing "...an individualized education plan for each handicapped student..." Far from closing the door on the issue, however, this law has led to further litigation attempting to determine the exact requirements of the public schools in the provision of educational services for the handicapped. In a recent Delaware case (Kruelle v Biggs, U.S. 3rd Cir, 1981), for example, the 3rd U.S. Circuit Court of Appeals has ruled that the state and local school systems must provide the residential care required for a handicapped child with social, emotional, medical and educational problems so intertwined that "it is not possible for the court to perform the Solomon-like task of separating them" ("Delaware Disabled Boy Entitled to Residential Placement, Court Rules," p. 3).

A further extension of this line of litigation could conceivably result in the form of a class action suit by children enrolled in basic programs. As P.L. 94-142 defines an education that is adequate for the handicapped as "an individualized education plan" for each student, should a lesser standard of adequacy be applied to children in basic programs, all of whom could also conceivably benefit from an individualized diagnosis and educational plan? It would seem that inner-city children whose test scores often indicate considerable educational deprivation could make an especially compelling claim based on this kind of service standard. In a current California suit, in which a handicapped man is suing the Los Angeles Unified School District for having provided him with an "inadequate education," the school attorney built part of his defense around the claim that handicapped students, "should not be given greater rights than millions of other school children" ("California Handicapped Man Sues Schools for Inadequate Education," p. 5).

A third battle concerning the requirements of public education is also currently being waged in the courts. Must states extend full public educational services to children of illegal aliens? An 1886 Supreme Court case ruled that full constitutional protection extends to lawfully admitted aliens, but the rights of illegal aliens have not yet been determined. Plyer v Doe (49 U.S. LW 3812) which is currently before the Supreme Court, challenges a Texas law allowing undocumented children to be

charged one thousand dollars a year in tuition to attend the state's public schools.

A fourth issue pertaining to the requirements of public education relates to the issue of educational malpractice. In Peter Doe v San Francisco Unified School District (Civ. No. 36851 [Cal.Ct.App., August 6, 1976]), the plaintiff charged the school district with negligence and carelessness in allowing him to graduate from high school, after twelve years of attendance in the district, even though he could only read at a fifth grade level. In this case, and in similar other educational malpractice suits, the courts have not ruled in favor of the plaintiffs, which seems consistent with the "opportunity to acquire basic skills" standard of Rodriguez and the "outcomes are irrelevant" standard of Serrano (Levin, p. 85). There is evidence that these cases have not gone unnoticed, however, in the vast spread of minimal competency testing and the "back to basics" movement that is currently sweeping the states.

As the courts continue to wrestle with a workable definition of educational adequacy, it is important to take into account some of the pitfalls of the past. In considering output standards, the courts must contend with the fact that little is known about the relationship between given sets of educational resources and educational outcomes. It cannot be assumed with confidence that any prescribed set or level of resources will result in a mandated set of outcomes. A second caveat lies in the realization that even if this technology were understood, there is considerable reason to doubt the possibility or perhaps even the desirability of prescribing a fixed set of outcomes. The Joint Education Committee of the New Jersey Legislature described this "indeterminate view of the education process" as follows:

> It must be borne in mind that education is not an end in itself, but a means to an end -- namely, to provide each student upon leaving public school with a reasonable set of skills to function effectively in our economy and society and, thus, help equalize opportunities in later life. As social and economic conditions change, so must the schools adjust accordingly. The goals of the schools must reflect the needs of a complex and changing world. Given this steady development, it is impossible to prescribe a fixed set of goals and procedures (Lehne, p. 107).

Considerable questions also remain unresolved in the Serrano equity standard of the "quality" of education as measured by per pupil expenditures in relation to overall state average expenditures. An absolute standard for a statewide differential, "substantially less than $100," reflects a lack of sensitivity to differences between school districts. It contains an implicit assumption that school districts are for the most part alike and, therefore, that equal dollars are the best assurance of equal educational opportunities. This rather simplistic rule ignores, however, a considerable body of research which gives evidence to the contrary. Cost of education studies conducted in a number of states show substantial variation in the costs districts face in purchasing

identical educational resources. But even if costs were controlled, by allocating funds such that all districts would have equal purchasing power per student, the assumption remains that the student populations of all districts are essentially alike. This assumption is also contrary to the substantial differences found in the various student populations across states and the costs of programs that the special characteristics of these students necessitate.

A third important issue in the establishment of adequate and equitable standards for the allocation of educational resources is local control. Public education arose and was nurtured at the local level through the concerned involvement of small communities. There is considerable evidence of a delicate symbiosis between local determination and state support and that heavy-handed involvement in public education on the part of the state can destroy the overall support system that has historically maintained the vitality of this enterprise. Another side to this issue, eloquently expressed in Serrano, is summarized by Robert M. Hutchins: "...the disparities in the resources of the rich and poor districts make local control a cruel illusion." (Hutchins, p. 19).

2.3.3 Federal Legislation and a National Concept of Adequacy

The federal government plays a relatively small role, compared to state and local governments, in the financing of public education. But through the seventies, a decade of substantial educational expansion, federal funding sources have more than maintained their revenue share. In unadjusted dollars federal monies have more than doubled, from 3.2 billion dollars in the school year 1969/1970 to 8.7 billion dollars in the year 1979/1980. The percentage of overall support emanating at the federal level has grown slightly from 8 percent to 9.3 percent (NEA estimate from the Standard Education Almanac 1980/81).

To the extent that there has been some unity of purpose behind federal expenditures for public education, it has seemingly been to provide supplemental funds for special needs considered important from a federal perspective. The largest blocks of federal monies traditionally go to categorical programs that federal policy makers seemingly believe are not adequately being provided for by the states. The requirement that these funds must supplement and may not supplant state or local dollars reinforces this point of view. Thus, to the tune of 8.7 billion dollars in the school year 1979/1980, federal policy did impact on the national perspective of what an adequate overall educational program should include. Given the opportunity costs that must be considered in all public expenditures, the federal decision to add its support to special educational programs, but not to general education, carries the implicit federal decision that the current state provision was adequate in one area and inadequate in the other.

As precise federal objectives are not stated and as educational technology does not allow any precise linkage between expenditures and

outcomes even if federal objectives were precisely defined, the consideration of the adequacy of the federal contribution must also be done in a political context. Whether there are enough federal dollars going to a given state or a collection of states cannot really be considered apart from the overall expenditures that are available for these kinds of purposes at the federal level, the relative needs of the states for these special programs, local ability to meet these needs, and the amount that any given state receives in relation to what the other states are receiving. Thus, the linkage reappears. While the concepts of adequacy and equity may be separable in a theoretical sense, in reality, given the inevitably political nature of public funding decisions, they are inextricably bound. Thus, even federal Impact Aid has an adequacy component to it. Is it adequate to meet the objectives which justify its existence? To the extent that it is inequitably distributed, it is inadequate for those districts receiving fewer dollars than they would receive under a more equitable funding formula.

Although there is a long history of limited federal assistance to public education, federal involvement in the expansion and definition of the concept of adequacy in education was quite limited until 1965. In that year Congress passed the Elementary and Secondary School Act, a large compromise measure which combined various forms of aid to education and became an important component of President Lyndon Johnson's "Great Society" legislation. The largest portion of the funds allocated to local districts under this act were authorized under Title I, the first major federal effort to target aid to needy students. A second federal enactment which allocates federal funds to local school districts is the Educational Agencies Financial Aid Act of 1974, which provides federal "impact aid" to local districts whose educational responsibilities are affected by federal activity within their district boundaries. Other federal enactments that have affected the national conception of adequate and equitable standards for education are the Education for All Handicapped Children Act of 1975 and Section 842 of the Education Amendments of 1974 which provides a federal incentive program for state finance reform projects in an attempt to diminish inter-district expenditure disparities.

A major problem with federal involvement has been that federal objectives concerning the concepts of adequacy and equity appear to be as unclear and contradictory as they are at the state and local levels. Rather than adding clarity to this debate through national leadership, federal legislation mirrors the irresolution at local and state levels of educational policy making. Thus, Congress enacts provisions to provide incentives for state educational finance reform that will equalize district expenditures while Title I and Impact Aid funds are allocated to local districts on the basis of formulas that are disequalizing. Federal bilingual and handicapped legislation is enacted in an attempt to set national standards for these educational requirements, while in fact, they are still very much being debated in Washington, and are seemly subject to wide review and rather sweeping alteration from one administration to the

next. Thus, even though billions of dollars are expended at the federal level, which impact on national perceptions of adequacy in public educational offerings, there is no clear federal conception of educational adequacy. Rather, an accumulation of many smaller efforts is seen, each with its own set of objectives, moving in independent spheres and in separate directions.

Title I of the Elementary and Secondary Education Act of 1965 represented a substantial commitment by the federal government to enhance the overall adequacy of educational systems across the nation by providing supplemental funds for "educationally deprived" children. For the purposes of this act, an educationally deprived child is aged five to seventeen and is, (a) in a family with an annual income that is less than the "low-income factor," or (b) in a family with an annual income in excess of this low-income factor which receives payments under an approved program of aid to dependent families, or (c) in an institution for neglected or delinquent children (Alexander, p. 82). In fiscal year 1980, this source of funding accounted for 3.5 billion dollars with 11.6 percent of the national enrollment in public elementary and secondary schools receiving assistance under this act.

Title I funding is based on "average state or federal expenditure, whichever is greater" (Levin, p. 52). Thus, an adequate supplement for the category of students, educationally deprived, is not based on some real assessment of the needs of these students, but on variations in statewide expenditures. Therefore, despite the floor of average federal expenditures that is built into this act, the federal allowance for educationally deprived students in New York in 1970 was 67 percent more than it was in Mississippi (Alexander, p. 82).

Title I funds are, however, equalizing within states which distinguishes them from most other federal funding schemes (Levin, p. 53). In an analysis of the federal role in education, Levin points out that Impact Aid especially distorts state equalizing formulas (Levin, p. 53). The formula to determine federal compensation is based on local expenditures. Although this formula also has a "floor," allowing the contribution rate to be based on state or national averages if local expenditures are below these mean values, the result of this distribution scheme is that it favors wealthy districts within states as well as wealthy states across the nation. The average local contribution rate, as used in the Impact Aid formula, was 88 percent higher in New York in 1970 than it was for any of the states which fell below the national average (Alexander, p. 85). A second provision of the impact aid statute also distorts state equalizing formulas. Because states are prohibited from counting impact aid in calculating local revenue, the districts receiving substantial sums of federal impact aid may appear to be poorer than they really are and, therefore, receive a disproportionately large amount of state aid.

These disequalizing formulas work at cross-purposes with another piece of federal legislation, Section 842 of the Educational Amendments of 1974. This piece of legislation provided a federal incentive to encourage school finance reform measures to equalize intra-state expenditure disparities. Even though the provisions of this section are relatively weak and ineffective, a federal commitment is therein recorded for the achievement "of equality of educational opportunity for all children." This piece of legislation seems to conflict with these two large federal funding programs, Impact Aid and Title I, which distribute funds in ways that are antiequalizing. The problem at the federal level is quite similar to the difficulties faced by federal and state courts, legislators, and educational policy makers -- uncertainty as to the appropriate basis for establishing standards of adequacy and equity. Levin comments: "There is little agreement as to whether equal educational opportunity means tax relief, education resource equity, or even minimally adequate education, rather than equal education" (Levin, p. 53).

Congress has also demonstrated a commitment to two other programs that affect the national concept of adequacy in education. The Education for All Handicapped Children Act requires all handicapped students to have an individualized education plan, to be educated in "normal settings" to the "maximum extent possible," and to be educated in the "least restrictive environment" (Levin, p. 87). In the area of bilingual education, Congress has passed the Bilingual Education Act in 1968 as an amendment to the Elementary and Secondary Education Act and adopted statutory regulations to implement Section 601 of the Civil Rights Act, which relates to the denial of educational benefits on the basis of national origin. In the enforcement of these provisions for handicapped and bilingual students, however, the federal government has been irresolute and unclear in the direction in which it wishes to lead the nation.

Although this disjointed leadership has been significantly affected by the overall shift in national priorities that has accompanied the Carter to Reagan transition, it can be argued that neither of these programs was ever fully implemented at the federal level. In 1975, for example, despite an estimated population of five million students in need of bilingual services, federal funding reached less than 270,000 children (Levin, p. 61). Under the Education for All Handicapped Children Act, Congress could have appropriated up to forty percent of the excess costs of educating handicapped students in fiscal year 1982, but only 12 percent funding was suggested by President Carter in his farewell budget recommendations for that year ("Goal of Handicapped Education Not Being Met, GAO Says," p. 8).

Confusion has also resulted from the substantial refocusing at the federal level which has accompanied the inauguration of the Reagan Administration. Sworn in as Education Secretary on January 23, Terrell Bell issued a "message of change to the American people" on February 2,

which withdrew rules emanating from the 1964 Civil Rights Act that would have forced schools to teach non-English speaking children in their native language ("Bell Withdraws Proposed Bilingual Regulations," p. 3). A further example of the new mood in Washington is evidenced by Senator S.I. Hayakawa's proposal of a constitutional amendment that would prevent states from requiring schools to teach non-English speaking students in their native language ("Constitutional Amendment Introduced on Bilingual Education," p. 5). In the area of education for the handicapped, within two months of taking office, Vice-President Bush announced that handicapped regulations were scheduled for "thorough scrutiny...with an eye for overhaul" ("Bush Orders Handicapped Regulation Review," p. 7).

Since 1965, federal involvement in elementary and secondary public education has experienced a continuous expansion, although current discussions of "block grant funding" accompanied by a significant reduction in overall federal aid to public education may signal a reverse of this trend. This involvement has significantly broadened national concepts of adequate standards in education, especially in the areas of integration, educational deprivation, bilingual, handicapped and vocational education. But because federal involvement has been the result of many independent, disjointed efforts often emanating from different departments and even different branches at the federal level, it has generally failed to add cohesion or bring clarity to the issue of more uniform standards of adequacy and equity in education.

2.4 CONCLUSION

Since its origin with the advent of public education, adequacy has been an imprecise, dynamic and expanding standard that has continuously been linked to considerations of equity. Despite the large number of references to adequacy in educational codes, legislative acts, court findings and policy statements, explicit definitions of educational adequacy remain imprecise. Rarely defined in a way that would provide a justiciable standard, working definitions of educational adequacy are derived from a large number of political and judicial actions as well as interpretations of past actions.[6] Adequate is an amount sufficient to meet requirements. But as new requirements for public education are constantly being generated and as these requirements are the results of considerable political interaction and compromise, educational adequacy will undoubtedly remain an imprecise standard by definition.

To reiterate, educational adequacy is a dynamic concept. As additional responsibilities are added to public education, additional commitments of resources are required. Therefore, decisions extending the requirements of public education are public resource allocation decisions. As such, they are subject to fluctuations in levels of public resources and are made within a political context. Johns, Alexander and Jordan (1972) point out that in a free enterprise system such as ours, goods in the private sector are allocated in the marketplace while public sector goods are allocated through political processes. Thus, the resulting

standards of educational adequacy, in the broadest sense, will constantly be in flux. They will be affected by variations in the overall availability of public resources as well as the changing mood of the political environment.

Historically, adequacy has been an expanding concept. Since the origins of public schooling, it has gradually but continually broadened in scope. The prevailing standard of adequacy of twenty-five years ago would not be considered acceptable today. Similarly, for the reasons cited above, it should not be expected that the prevailing standard twenty years hence would now be recognizable. Although a continuation of this expansion currently seems unlikely, given the present mood of retrenchment in the provision of public services, this prognosis may be premature in light of the long precedent of expansion in what has been considered adequate provision in public education. As it is unlikely that the world will cease to evolve in its complexity, present standards for public education will most likely be deemed inadequate for future generations.

Commenting on educational standards of the day, Will Rogers said, "the schools aren't as good as they used to be, but they never were..." In reminiscing over the "golden days of education," when the public schools were the pride of local communities, it is important to keep in mind the relatively limited requirements that were placed on public education as compared to the demands of today. Public education as provided in the 50's and early 60's -- when the high school graduation rate was 61 percent (1954-55) as compared to 75 percent (1980-81), when the percentage of sixteen to twenty-four year old blacks who were not high school graduates or in school was 29 percent (1967) as opposed to 20 percent (1977), (The Condition of Education, 1979, pp. 183-184) when education in the southern states was almost completely segregated and handicapped students were often completely excluded from public systems, and before the provision of bilingual programs--would clearly be considered inadequate by the standards of today. In light of the rapid expansion of the requirements of what is considered adequate, escalating costs and the appearance of dwindling outcomes may seem somewhat less puzzling (Johns, Alexander, and Jordan, p. 16).

CHAPTER 3

ADEQUACY OF STANDARDS ACROSS THE STATES

As there is no mention of education in the United States Constitution, it is an area of jurisdiction that has been reserved for the states. And indeed, all of the fifty states have adopted language in their state constitutions as well as in what have often become voluminous education codes governing the publicly supported educational services to be offered all of the states' school age children. For this reason any discussion of the adequacy of educational services being offered across the nation must center around these state guarantees. The focus of this chapter is to explore explicit and implicit adequacy standards as they currently exist in the states from a variety of perspectives. The chapter appears in five major sections. The first section contains an analysis of the state role today in educational provision and the recent forces that have caused it to be substantially increased. The second section analyzes the actual dollar amounts provided by the various states. The supplemental programs of special, bilingual and compensatory education are discussed and analyzed in section three as well as state approaches to the funding of supplemental educational programs. In part four, several educational resource input measures are viewed. And in the last section, brief case studies of four states illustrate how certain states have specifically utilized their state aid allocation systems for the purpose of specifying state adequacy standards in fairly precise terms.

3.1 THE STATE ROLE

3.1.1 Origins

The responsibility for the provision of education has been interpreted within state constitutions in a variety of ways. Representative of these state guarantees is such constitutional language as is found in the states of Delaware and Ohio directing legislatures to establish and maintain "general and efficient" (Delaware Constitution, Article X, Section 1) or "thorough and efficient" (Ohio Constitution, Article VI, Sections 1, 2, and 3) systems of public schools. The California Constitution directs the legislature to "encourage by all suitable means the promotion of intellectual, scientific, moral and organizational improvement" in the state through public school provision. (Article IX, Section 1) The "Duty of the general assembly" in Rhode Island is to "adopt all means which they may deem necessary and proper to secure to the people the advantages and opportunities of education." (Rhode Island Constitution, Article XII, Section 1) In Florida the constitution makes a more specific commitment to the school-aged children of the state: "To guarantee to each student in the Florida public school system the availability of programs and services appropriate to his educational needs which are substantially equal to those available to any similar student notwithstanding geographic differences and varying local economic factors."

Some of these constitutional provisions have been recently altered in response to school finance reform measures in general, or to specific litigation within states. But many of these general statements pertaining to

the constitutional guarantees in states have long been in place, often with their interpretations varying considerably over time. Historically states have, for the most part, delegated their responsibility for the provision of educational services to local communities. Thus, educational standards were primarily derived at the local level and were a function of local fiscal capacity, preferences for educational services, and student need. Such a system of locally determined standards of adequacy led to wide disparities in the educational services being provided within states. This was one factor eventually leading to a more active state role in the provision of educational services, at least in the form of minimal state guarantees to school-age children residing in districts that either did not choose, or were not fiscally able, to provide acceptable levels of educational services.

3.1.2 A Three-fold Increase in State Support

The increasing general level of state involvement in education is illustrated by the substantial rise in the state revenue share for educational services that has occured over the past fifty years. Over this period average state support for education has increased nearly three-fold from 17.3% in 1930 to an estimated 48.1% in the 1980/81 school year. It is relevant to note that this large rise in state support of educational services occurred at a period of unprecedented overall expansion of educational services. Per pupil expenditures rose 302% in 1969 dollars over the forty year span from 1930 and overall expenditures for education throughout the country rose another 24.6 % when adjusted for inflation over the past ten years despite declining enrollments and strong inflationary pressures. Thus, in real terms while local support for education has declined 3.1% over the past decade and federal support has remained fairly constant, state support has increased substantially by 44.4%.[8]

Three separable factors have been especially important in contributing to the significant expansion in state educational support over the past decade, despite the 6% decline in overall enrollments: (1) the school finance reform movement, (2) the so-called tax-payers revolt, and (3) the significant increase in supplemental educational services for children with identifiable special needs.

Swept in by California's landmark Supreme Court Decision in Serrano v Priest (1971), the school finance reform movement has effected major changes in the financing of education in almost half of the fifty states thus far (Kelly). Successful litigation in some states led to further reforms in other states even in the absense of judicial pressure. In almost all instances of successful reform, the low expenditure districts have been levelled up to the higher spending districts through substantial increases in overall expenditures for education and a significantly expanded role for the state in the financing of educational services.

The "tax-payers revolt" has struck most markedly in the area of property taxation, long the mainstay of local school finance. It has come gradually in the form of declining approval rates for local school bond levies and the resulting decline in the number of requests for such property tax increases, and it has struck suddenly as was the case with California's Proposition 13

and Proposition 2 1/2 in Massachusetts. In the ten years prior to the 1967/68 school year the average number of public school bond elections per year was 1,816 with an average approval rate of 71.9%. This contrasts rather sharply with the school bond levy record in the ten years subsequent to 1967/68 when an average 1,112 elections were held (down 39%) and an average of 48.2% of the requested levies were passed (down 33 %). Or, in another way of summarizing this decline in local tax support, the average number of local levies passed per year in the decade 1957 to 1967 was nearly two and one-half times the average number passed per year in the decade following the 1967/68 school year (The Digest of Educational Statistics, 1980, p. 72). These figures illustrate a gradual decrease in local fiscal support for school services. As opposed to this gradual decline, California's Proposition 13 is more illustrative of a blitzkrieg-type action in this revolt. Overnight this referendum slashed property taxes across the state to a maximum of 1%. This general rebellion against the property tax has also been a significant force in increasing the use of state-level funds to support educational services.

A third major force in transferring responsibility for the support of education away from local sources to a greater reliance on state provision has been the substantial increase in supplemental educational services for children with identifiable special needs. The provision of special teachers and additional services in the programmatic areas of special education, bilingual education and compensatory education have reduced overall pupil to teacher ratios across states and has increased state revenue shares in support of education. All fifty of the states have state supported programs for handicapped children, twenty-two states operate their own bilingual programs and twenty-two states have state programs for compensatory education students.

Although some states specified certain kinds of educational services for handicapped children as early as the 1920's, many physical and most learning handicaps did not receive a great deal of legislative attention until the early 70's. By 1975 state support for special education totalled more than two billion dollars and served about three million students. By the 1979/80 school year these figures had risen to 3.4 billion dollars for approximately four million handicapped children. Similarly bilingual education became an important supplemental service in many states during the seventies. By the 1978/79 school year, $98.4 million in state revenues were being spent on bilingual programs across the nation. Although the concept of compensatory education was largely introduced by Title I of the Elementary and Secondary Education Act of 1965, during the seventies some states also began funding compensatory education programs based either on the economic need of the families being served by districts or the demonstrated need of students for supplemental educational services. The states provided $789 million in the 1979-80 school year for compensatory education programs (McGuire, Pp. 3-4).

3.2 BASIC STATE FINANCE APPROACHES: THREE SETS OF ADJUSTMENTS

3.2.1 Wealth Adjustments

A number of basic approaches to financing education have arisen over the years, some in the last decade in response to the school finance reform

movement. These include such approaches as flat grants, foundation formulas and various kinds of percentage equalizing formulas. Each is designed in its own way to address the issue of equality of access to educational services for students living in different regions of a state. Indeed, one major purpose of the various formulas, other than flat grant systems, is to adjust distributions of educational dollars for variations in the property wealth of districts. In more recent times, the concept of local wealth has also come to include other factors related to fiscal capacity such as measures of personal income in districts.

But local wealth is only one of the factors beyond local control affecting the real level of educational services local communities are able to provide for their school-aged children. From an equity viewpoint, an improved state system would be one that provides equality in the level of educational services received by each child in districts across the state or at least one that equalizes the local opportunity to provide educational services for children. But equal dollars will fail to yield equal educational resources if the prices of these resources vary across the state. Moreover, equal educational resources for children with recognized differences in their educational needs does not offer equal opportunities to all children. Thus, adjustments based on three different criteria can be found in state education finance formulas: local variations in property wealth, resource prices, and student need.

The two major forms of wealth related adjustments are the foundation formulas and percentage equalizing plans. The foundation approach necessitates the determination of some measure of an "adequate" level of educational resources at the state level. On the basis of pupil or instructional unit counts, the foundation level of support is then calculated for every district in the state. The state contribution to each district is the difference between this foundation and the amount of revenue that can be raised locally with some preestablished minimum local tax rate. The major thrust of a basic foundation approach is usually less oriented toward neutralizing the effects of wealth than toward ensuring a minimal program to all of the public school students of the state regardless of district wealth. If the basic foundation is set very high, however, and/or if limits are placed on allowable educational expenditures above the foundation level, this approach can also virtually equalize per pupil expenditures across the districts in a state.

Percentage equalizing grants are a second form of wealth related adjustment to school finance formulas. Also referred to as a guaranteed tax base or district power equalization, the major emphasis of this approach is not the equalization of per pupil expenditures across the state, but the equalization of local ability to raise "sufficient" funding for adequate levels of educational services independent of local wealth. This approach neutralizes local wealth (ex ante) by basing the state contribution on the size of the local tax rate (or tax effort) regardless of local property wealth.[9] The degree of wealth neutralization under this approach is contingent on the degree of state as opposed to local support. A state in which all school funding is percentage equalized must either make the base equal to the highest wealth district in the state or have some form of

"recapture" provision in place whereby property wealthy districts collecting tax dollars in excess of the state guaranteed expenditure for a given rate of tax effort must submit these excess receipts to the state for redistribution to property poor districts. Under full percentage equalization, all districts in the state with identical rates would be granted identical revenues per pupil regardless of local wealth, all other student need and price adjustments held equal.

3.2.2 Cost-Based Adjustments

A second set of school finance adjustments is based on variations in the prices of educational resources across the state. Numerous studies have been conducted to measure the variation in the cost of educational resources across states with a resulting average overall variation of about 15-40%. While studies have been conducted in the states of California, Florida, Texas, Missouri, New York and Maryland, no state has adopted the complete methodology required to index state aid allocations on the basis of variations in the costs of educational resources as yet. Florida and Alaska, however, do use an indirect adjustment based on overall cost-of-living indices to attempt to proxy the variation in the cost of educational resources across the state. However, in the state of Florida the correlation between the Florida Price Level Index (FPLI) and the cost of education index for that state is reported to be .66, (Chambers, et al. 1981) suggesting that cost of living indices may fail to capture a great deal of the variation in the costs of educational resources existing in states.

Other forms of cost adjustments are also found in state school finance formulas. Twenty-two states (McGuire, Augenblick, and Espinoza, 1979) allocate additional funding to districts on the basis of low enrollments, small schools or some measure of pupil density or sparsity. While most of these plans allow additional aid on the basis of only one of the above characteristics, New Mexico gives additional state aid on both the bases of small districts and small schools, Pennsylvania gives extra funding for density and for sparsity and Texas gives additional aid for both small schools and sparse districts. The majority of the states providing additional support for small schools or districts are in the West and have large areas of scattered population. In most instances to receive support, these schools must meet certain criteria which are intended to show that their smallness is a matter of circumstance rather than choice. Such schools are often labelled "necessary small schools" (Chambers, et al.,1980, p. 24/25).

Another common allowable cost-based adjustment is for transportation services. Nearly all of the states provide some supplemental aid for transportation based on the costs districts are actually likely to incur. Only New Hampshire and Rhode Island fail to provide any state aid for transportation and only Nevada bases transportation aid on the basis of a flat per pupil transportation grant as opposed to some form of a cost-based system (School Finance at a Fourth Glance, 1980). In addition fourteen of the states also use density/sparsity factors in the calculation of district transportation grants (Chambers et al., P. 26).

Declining enrollment reimbursements are a third form of cost-based adjustment found in school finance formulas across the states. Thirty states

make explicit adjustments to state aid to school districts in recognition of the cost consequences associated with local districts' inability to make immediate adjustments in resources in the face of enrollment declines. There are a number of reasons why educational costs can not generally be expected to decline proportionately with the number of students. One prominent reason is that the fixed plant and equipment costs must be shared among fewer students. A second cause is the per pupil rise in personnel costs associated with the requirement (based either on state law or union contract) that districts release the newest and consequently the least expensive teachers while keeping the most senior, high-salaried teachers when faced with declining enrollments. Thus, with declining enrollments, per-pupil costs can be expected to rise (Odden and Vincent, 1978). Many states try to help districts with declining enrollments by allowing them to count various amounts of "phantom" students. Such approaches include allowing the use of a prior year's count for aid payments, counting only a percentage of the decline in students or the use of a moving average including enrollment figures from previous years.

A final common form of cost-based aid adjustments are for the training and experience costs of certificated school personnel. Eight states adjust state aid, or set up the funding of the entire education program, on the basis of a statewide teacher salary schedule. While there is almost always some degree of local discretion as to the actual salary scales that will be used by local districts, this state scale usually suggests minimal salary levels and forms the basis for the amount of state aid. Districts are authorized to provide some number of instructional units and are funded on the basis of the training and experience levels of the certificated personnel that are actually employed by districts to fill these slots. The impact of this approach varies considerably based on the size of the state salary guarantee in relation to average salary figures in the state and the degree of allowable local leeway. Delaware had a state salary scale in 1978-79 that ranged from $8,269 to $13,944 while the average salary for instructional staff in the state for that year was $15,555. Every district in the state provided some form of teacher salary supplement.[10] The Kentucky scale is higher in relation to the statewide average salary, but districts are only required to pay 93% of the legislatively scheduled amount. In New Mexico this "excess cost" allowance due to additional training and experience can have a considerable impact on the distribution of state aid because of a high level foundation and a low degree of local leeway. The New Mexico salary multiplier index ranges from .95 to 1.221.

Differing rationales can be cited for these training and experience cost adjustments. They can be viewed as a state incentive system to encourage local districts to hire instructional personnel with more training and experience. Another line of reasoning is that with declining or leveling enrollments many districts are faced with more training and experience among their instructional personnel than they would prefer under more standardized demographic conditions. Thus, the state is helping to off-set the costs associated with these supplemental amounts of training and experience. A third factor to consider in relation to this adjustment is its potential for disequalization. To the extent that better-trained, more highly experienced staff are found in high-wealth districts, experience and training adjustments can be disequalizing as more dollars will be sent to these districts in the

form of salary supplements. A fourth characteristic of this adjustment, which sets it apart from the other adjustments mentioned thus far, is that it reimburses districts for a cost that can be locally controlled, at least in the long run. That is, districts can choose, over the long run, the combination of training and experience they wish to hire. Given that the resulting mix of these factors employed by districts is a matter of local taste, the justification for this form of cost adjustment is less clear than for factors beyond district control, as is the case with the other previously listed cost adjustments.

3.2.3 Student Need Based Adjustments

A third set of cost adjustments, found in one form or another in all fifty states are for certain special need characteristics of the students districts enroll. Student need based cost adjustments are found in the various states for five separate kinds of programs: special education, compensatory education, bilingual education, vocational education and grade level differentials. There are eight basic funding approaches to financing these supplemental programs at the state level: pupil weighting, flat grants, units, personnel, excess costs, percentage reimbursement block grants and approved programs. These will be discussed in more detail in later sections dealing with supplementary programs in the states.

3.3 OVERALL ADEQUACY STANDARDS - COMPARING THE STATES

With the various state mechanisms for distributing funds to local school districts in mind, we will compare average expenditures per pupil across the states and how these differing expenditures levels seem to be related to specific funding approaches. Expenditures are considered in three different forms: the absolute per pupil expenditure, per pupil expenditures as adjusted for a cost-of-living index, and expenditures adjusted by a teacher wage index.

3.3.1 Comparing The Dollar Amounts

It is with caution that we address the adequacy of educational programming offered in the various states in terms of the traditional input measures. One danger of this approach being the implication that the educational programs in the states at the top of the scale are superior to those at the bottom. But even the inputs of the educational process can be viewed from a number of perspectives. Actual dollar amounts allocated for educational services, for example, can not be directly applied to the educational process. Whatever the outcomes of education are to be, they can not be purchased directly. Dollars can only purchase the necessary <u>resources</u> to be applied to the educational process. From an input view, therefore, the absolute amount of dollars is a much less appropriate measure than the levels of educational resources they represent. And just as the value of a dollar varies considerably across the country, the amount of educational resources that a dollar represents also varies considerably across states. As a dollar represents less groceries in Alaska than in Florida, it may also represent fewer of the resources necessary for the provision of educational services,

necessitating higher educational expenditures in Alaska than in Florida to result in equivalent levels of educational resources.

For these reasons, in the following tables of per pupil expenditure levels across the nation, two kinds of adjustments have been provided. In column one the dollar amount of these expenditures is listed in absolute terms. In the second column, these amounts have been standardized by a cost of living index as has been estimated for the forty-eight continental United States by McMahon and Melton (1978). As shown in Table 1, this weighted index only pertains to the forty-eight continental states, exluding Alaska and Hawaii. The range is from a low value in the State of West Virgina of .906 to the state shown to have the highest cost of living, Connecticut, with an index value of 127.8. To the extent that this represents the general buying power of the dollar it provides some indication of the relative value of a dollar across forty-eight of the fifty states. It does not, of course, direct itself specifically to variations in the costs of educational resources.

What is required to equate dollars to levels of educational resources is a cost of education index. As has been previously mentioned, such indices have been calculated for a number of the states across the nation, but does not exist on a national scale. For the purposes of attempting to compare the actual educational resources that a dollar represents in the different states, however, we have devised an index of the average salary of teachers across states. The rationale behind this approach is that as education is a highly labor-intensive enterprise, personnel costs usually account for about 85% of the total cost of providing educational services. As the most important base for these personnel costs is the salary scale for instructional personnel, this teacher wage level index (TWLI) is used to approximate variations in educational costs across states. The obvious shortcoming of this approach is the exclusion of all costs that are not teacher based. Another serious caveat is the lack of controls for the levels of teacher services that a dollar represents. That is, while we can say that X dollars is equivalent to Y teachers in state A as opposed to Z teachers in state B, these numbers are not really comparable without controlling the characteristics of the teachers being considered.

For our purposes, the utilization of the TWI adjustment simply provides another approach to the consideration of the level of educational provision across the fifty states. As is shown in Table 1, the TWI ranges from a high in Alaska of 1.48 to a low of .76 in the State of Arkansas.[11]

Table 2 lists average per pupil expenditures across the states in unadjusted and in CLI and TWI adjusted dollars. Expenditures per pupil in average daily attendance are listed in column one. Columns 2 and 3 contain these expenditure estimates as adjusted for the cost of living index and the teacher wage level index from Table 1. Columns 4 - 6 of Table 2 show the relative ranks of the states on these various expenditure measures with the lowest expenditures ranked as one and the highest estimated expenditures ranked as forty-eight. As no cost of living index was estimated for the states of Alaska and Hawaii, these states have been excluded from all three of the rankings so they could all be compared on a common base of forty-eight.

TABLE 1

COST OF LIVING AND TEACHER WAGE INDICES

	Cost of Living Index (CLI)	Teacher Wage Index (TWI)
ALABAMA	0.926	0.884
ALASKA	9.990	1.483
ARIZONA	1.054	1.186
ARKANSAS	0.909	0.765
CALIFORNIA	1.146	1.215
COLORADO	1.069	1.036
CONNECTICUT	1.278	1.065
DELAWARE	1.181	1.040
FLORIDA	0.980	0.975
GEORGIA	0.962	0.898
HAWAII	9.990	1.262
IDAHO	1.025	0.874
ILLINOIS	1.095	1.135
INDIANA	1.024	0.984
IOWA	1.016	0.975
KANSAS	0.997	0.882
KENTUCKY	1.006	0.911
LOUISIANA	0.958	0.886
MAINE	0.976	0.841
MARYLAND	1.204	1.163
MASSACHUSETTS	1.145	1.146
MICHIGAN	1.071	1.246
MINNESOTA	1.072	1.081
MISSISSIPPI	0.911	0.771
MISSOURI	1.026	0.881
MONTANA	1.028	0.937
NEBRASKA	1.013	0.876
NEVADA	1.136	1.071
NEW HAMPSHIRE	1.133	0.815
NEW JERSEY	1.240	1.145
NEW MEXICO	1.011	1.118
NEW YORK	1.174	1.269
NORTH CAROLINA	0.939	0.923
NORTH DAKOTA	1.035	0.825
OHIO	1.064	0.992
OKLAHOMA	0.912	0.853
OREGON	1.043	1.036
PENNSYLVANIA	1.012	1.069
RHODE ISLAND	1.101	1.171
SOUTH CAROLINA	0.940	0.846
SOUTH DAKOTA	0.997	0.809
TENNESSEE	0.932	0.864
TEXAS	0.930	0.903
UTAH	1.051	0.976
VERMONT	1.076	0.824
VIRGINIA	0.997	0.916
WASHINGTON	1.086	1.230
WEST VIRGINIA	0.906	0.884
WISCONSIN	1.060	1.043
WYOMING	1.044	0.999

Sources:

Col. 1 Walter W. McMahon and Carroll Melton, "Measuring Cost of Living Variation." Industrial Relations

Col. 2 Based on estimated average salaries for instructional staff, 1978/79. Digest of Educational Statistics, 1980, P. 19.

TABLE 2

AVERAGE PER PUPIL EXPENDITURES AND RANKS
Adjusted for Variation in the Cost of Living and Teacher Wage Levels

	Average Expend. Per ADA 1979/80 (1)	Average Expend. Per ADA Adj. By CLI (2)	Average Expend. Per ADA Adj. By TWI (3)	Reg. Exp. (Col 1) Rank (4)	C.L.I Exp. (Col 2) Rank (5)	T.W.I. Exp. (Col 3) Rank (6)
ALABAMA	1503	1623	1699	3	7	6
ALASKA	4779	N.A.	3221	--	--	--
ARIZONA	2236	2121	1883	30	31	14
ARKANSAS	1502	1652	1962	2	8	20
CALIFORNIA	2000	1745	1645	26	13	2
COLORADO	2085	1950	2011	29	27	23
CONNECTICUT	2755	2155	2584	45	32	47
DELAWARE	2664	2255	2561	44	36	45
FLORIDA	1886	1924	1933	23	24	18
GEORGIA	1331	1383	1481	1	2	1
HAWAII	1855	N.A.	1469	--	--	--
IDAHO	1542	1504	1763	5	3	7
ILLINOIS	2483	2267	2187	40	38	31
INDIANA	1849	1805	1877	19	18	12
IOWA	2506	2466	2568	42	46	46
KANSAS	2310	2316	2617	33	41	48
KENTUCKY	1722	1711	1890	12	11	16
LOUISIANA	1797	1875	2027	14	21	24
MAINE	1859	1904	2208	21	22	33
MARYLAND	2319	1926	1992	34	25	21
MASSACHUSETTS	2757	2407	2404	46	45	42
MICHIGAN	2349	2193	1885	36	34	15
MINNESOTA	2428	2264	2244	37	37	35
MISSISSIPPI	1631	1790	2112	9	15	28
MISSOURI	1836	1789	2081	18	14	25
MONTANA	2247	2185	2098	31	33	26
NEBRASKA	2070	2043	2360	27	28	39
NEVADA	1806	1589	1686	16	5	5
NEW HAMPSHIRE	1515	1337	1857	4	1	9
NEW JERSEY	2893	2333	2526	47	43	44
NEW MEXICO	1855	1834	1659	20	20	4
NEW YORK	3041	2590	2396	48	48	41
NORTH CAROLINA	1808	1916	1948	15	23	19
NORTH DAKOTA	1652	1596	2001	10	6	22
OHIO	1918	1802	1932	24	17	17
OKLAHOMA	2070	2269	2426	27	39	43
OREGON	2459	2357	2372	38	44	40
PENNSYLVANIA	2499	2469	2335	41	47	36
RHODE ISLAND	2538	2305	2167	43	40	30
SOUTH CAROLINA	1581	1681	1868	6	9	11
SOUTH DAKOTA	1793	1798	2216	13	16	34
TENNESSEE	1611	1728	1862	8	12	10
TEXAS	1701	1829	1881	11	19	13
UTAH	1609	1530	1647	7	4	3
VERMONT	1810	1682	2195	17	10	32
VIRGINIA	1927	1932	2103	25	26	27
WASHINGTON	2256	2077	1834	32	30	8
WEST VIRGINIA	1882	2077	2128	22	29	29
WISCONSIN	2459	2319	2357	38	42	38
WYOMING	2341	2294	2345	35	35	37
UNITED STATES	2106	1970	2090	--	--	--
Standard Dev.	563	310	335	--	--	--

Source: "School Finance At A Fifth Glance," Educational Commission of the States, June, 1980.

The unadjusted dollars show very large disparities in average expenditures among the states. When unadjusted expenditures for Alaska are included, the difference between the highest spending state (Alaska) and the lowest agerage expenditure state (Georgia) is a whopping $3448. And even when Alaska is excluded, the next highest state in unadjusted expenditures (New York) spends, on average, more than twice the amount per pupil than the lowest spender. But as is expected, when controlled for the variation in the cost of living across the states the expenditure variations across the states decrease significantly (excluding Alaska) from $1710 to $1253. Using the TWI adjustment, which is perhaps a more appropriate adjustment as it comes closer to reflecting the actual resources allocated for educational services, the expenditure range diminishes even more to $1136 (excluding Alaska). If Alaska is included in the comparison of columns 1 and 3, the TWI adjustment is shown to diminish the range in expenditures by nearly one-half from $3448 to $1740. These adjustments seem to indicate that the commonly cited average expenditure data can be misleading by indicating a larger range of variation in expenditures across the states than actually exists when the cost of living or the cost of educational resources are taken into consideration.

It is also interesting to note the alterations in the rankings of the states when expenditures are adjusted for these two cost factors. At the bottom extreme, Georgia maintains the lowest ranking in straight expenditures and in expenditures adjusted by the teacher wage index. Only on the CLI scale does it relinquish the bottom position to the State of New Hampshire. A low ranking on the TWI (teacher wage index) scale indicates that teacher salaries are high relative to the level of educational provision in the state and that the actual level of instructional personnel allocated to each child in the state is comparatively low. At the opposite end of the rankings, New York maintains the position as the highest spending state even when expenditures are adjusted for its relatively high cost of living. On the TWI scale, however, Kansas emerges as number one.

Rankings of some of the states are markedly effected by these adjustments. California, for example, with a relatively high cost of living, and even higher teacher salaries relative to the national average and overall expenditures in the state, jumps from a ranking of twenty-six to thirteen to next to the bottom across this set of expenditure adjustments. With an even higher average salary for instructional personnel, the State of Washington jumps twenty-four places from thirty-second to only the eighth highest expenditure state when instructional salaries are controlled. Moving in the opposite direction are the states of Oklahoma and Kansas. Oklahoma moves from the 27th to the 39th rank on the basis of the cost of living adjustment while Kansas moves to the highest TWI expenditure state from a "regular" expenditure rank of thirty-third.

Table 3 illustrates these same adjustments on a regional basis. It is interesting to note that the Mideast maintains its position as the leader in educational expenditures throughout the two sets of adjustments. The Far West, however, excluding Alaska and Hawaii, takes a significant drop in average expenditures when these cost adjustments, especially the cost of living adjustments, are considered. While the Southeast maintains its ranking as the lowest spending region, when the cost of living is considered (and

TABLE 3

ESTIMATED REGIONAL AVERAGE EXPENDITURES PER PUPIL

In Average Daily Attendance
Using Cost of Living and Teacher Wage Level Adjustments

	New England	Mid-East	Great Lakes	Plains	South Eastern	South West	Rocky Mnts.	Far West
REG* $	2206	2683	2212	2085	1682	1965	1965	2526
CLI $	1966	2315	2078	2039	1775	2014	1883	1776**
TWI $	2236	2362	2048	2298	1918	1963	2032	2038

The states included in each region are as follows - NEW ENGLAND: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; MIDEAST: Delaware, Maryland, New Jersey, New York, Pennsylvania; GREAT LAKES: Illinois, Indiana, Michigan, Ohio, Wisconsin; PLAINS: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; SOUTHEAST: Alabama, Arkansas, Florida Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; SOUTHWEST: Arizona, New Mexico, Oklahoma, Texas; ROCKY MOUNTAIN: Colorado, Idaho, Montana, Utah, Wyoming; FAR WEST: California, Nevada, Oregon, Washington, Alaska, Hawaii.

* 'REG' or regualr dollars show unadjustad average regional expenditures per pupil for 1978/79 school year.

** Excludes Alaska and Hawaii

Source: Expenditure data by state is from "School Finance At A Fifth Glance," Educational Commission of the States, June, 1980.

Hawaii and Alaska excluded due to the lack of a calculated CLI index), the Far West exceeds this region's average per pupil expenditure by only one dollar. As would be expected these indices level per pupil expenditure distinctions between regions, with the TWI adjustment reducing the regional disparity to an even greater extent than the CLI. This seems to suggest that teacher salary diffentials compensate to some degree for the relative loss of buying power in high cost areas.

3.4 EXISTING ADEQUACY STANDARDS IN SUPPLEMENTARY SPECIAL PROGRAMS

Three kinds of supplementary programs receive the bulk of the categorical funds that are allocated by states: special education, compensatory education and bilingual education. The rapid expansion of these three programs over the past decade and the resulting significant increases in state-level educational support, as well as the various state funding approaches to these categorical programs, have been previously discussed in this paper.

All fifty of the states have some form of supplementary funding mechanisms in place for students with special educational needs. By program, all fifty states have supplemental funding for special education, twenty-two sponsor state compensatory education students and twenty states have bilingual programs. These various state programs often differ significantly in approach and in the resulting levels of services. In considering the adequacy of these statewide programs, it is important to know certain characteristics of the state, such as the number of children served compared to estimates of the number of children with requirements for supplemental services, the cost of educational services in the state, the overall level of funding available for educational and other social welfare services as well as the requirements of competing educational and other social welfare programs. The wide disparities in the dollar amounts allocated for supplemental services, as well as the presence of these programs in some states and their absense in others, give evidence of the degree of variation existing in the states in implicit standards of educational adequacy.

Specific discussion relating to the three major special program areas listed above follows. In each of the three major area, special, bilingual and compensatory education, the states sponsoring these various special programs will be featured and the various state programs compared. Following the section for state compensatory education programs, Section 3.4.4 will provide some analysis of the various state funding approaches to state special educational programs. In this section, special education funding approaches will be specifically presented as an example of the range of allocation approaches in the funding of educational programs across the states. The intent of this section is to illustrate and discuss a second side of the adequacy issue, beyond the simple level of allocation, i.e., the adequacy of state funding formulas in assuring some acceptable minimum level of services by properly adjusting available state aid for the variations in costs districts face in attempting to provide equivalent levels of educational program services.

3.4.1 Special Education

Table 4 lists summary data for the fifty state special education programs. While these data give some insight into the prevailing adequacy standards in special education programs existing in the states, a number of caveats must be considered. One difficulty in attempting to analyze programmatic expenditures is the comparability of the data. While the amount of state revenues that are allocated for special education programs are fairly accessible, the total sums expended for special educational services in the various states are not. There is, for example, a paucity of data on the local revenues expended for special education programs, which makes it difficult to interpret any comparisons of the state revenues allocated for special education as shown in Table 4. That is, local revenues may be considered and added in differentially across states. Thus, the resulting figures reported in Table 4 are probably not totally comparable. Similarly, the total enrollment that is shown is only indicative of the enrollment served by special education programs receiving state dollars. Therefore, enrollments receiving special education programming funded exclusively at the local level will be excluded. Table 4 reports the best data currently available to the authors. In the following analysis these data are primarily utilized as a vehicle for considering ways of framing the relevant questions as to standards of adequacy as they currently exist in special education programs in the states.

In Table 4, column one lists the percentage of the total statewide public school enrollment being served by the state special education program. Columns two through five list the following special education state revenue data per special education (SE) student: state revenue dollars per SE student, the state rank in state revenue dollars per SE student, and state revenue dollars per SE student adjusted for the cost of living and the teacher wage level indices. Column six lists the average per pupil state special education allocation as a percent of the average per pupil expenditure in the state.

Considerable disparities in the percent of the total state enrollment being served by state special education programs are found in column one. This is surprising, because unlike bilingual or compensatory education categories, one would expect to find a fairly standard distribution of special education students across all of the states. While this variation may be partly explained by different incidences of handicapping conditions in the state, the variation observed in this column may also be caused by differing state procedures for the categorization of students and variation in the implicit incentive structures in the different special education financing approaches used across the states. Also, as mentioned, the percentages listed in column one may not be comparable. They do not, for example, necessarily indicate the percentage of children receiving special education services in the state, as they may also be served locally or by federal dollars. If districts were independently serving large numbers of special education students in the relatively low percentage enrollment states, however, one would expect to find a relationship between the percent state revenue share and the percent of enrollments served by the state special education program. But, the fact that the relationship between these two variables is slightly negative suggests that some factor other than state versus local control is governing the percent of the student population receiving state special education revenues. Even if districts are partly filling the gaps evidenced

in the low percentage enrollment states, these percentages give some indication of the implicit adequacy standard adopted by the state in the area of special education as they represent the percentage of children falling under the guarantee of the state program. To the extent that the percentages in column one of Table 4 are representative of the number of special education students identified and served in the state, it is interesting to note that the percentage receiving state special education revenues in the State of Massachusetts (13%), is more than twice the percentage receiving special education state revenues in the State of New Hampshire, (6.3%).

It is also interesting to compare these percentages with the estimates reported by Hartman (1979, P. 22, Table 2.4) suggesting an incidence rate for handicapping conditions of about 12% nationwide. Only four states show incidence rates at or above 12%. Moreover, almost half of the states have less than 75% of the national estimate and more than one in four states have less than 67% of the national estimate. Hartman also reports incidence rates of handicapping conditions for twenty-four states (Hartman, 1979, Table A-2). In comparing his figures with those in column one, however, one finds that in some cases the total percent of special education students receiving state SE revenues exceeds his reported incidence rates, while in other cases the rate of service is substantially less. Out of the twenty-four states, fifteen show higher incidence rates than the percent served by state revenues, while nine show relatively lower incidence than service rates. Three of these last nine, however, are within one-half percent of one another. Twelve of the fifteen states with lower service than incidence rates were lower by more than a percentage point, while seven of these states were lower by two or more percentage points. While these data are far from conclusive, there is some evidence that there are still handicapped students who are not being served by special education programs. (Reference - Hartman dissertation, Table A-2, Pp. 329-330 and Table 2.4 P. 22)

Columns two, three and four of Table 4 list state revenues per special education student as well as the CLI and TWI adjustments to these revenues. In all three columns very large disparities are shown in the amounts of state dollars that are provided per special education student. While it seems unlikely that the figures cited are entirely comparable, they show that Wyoming, the state providing the largest revenues per special education student, provides over nine times that of the state with the lowest revenues per pupil (i.e. South Dakota.) Column four shows the ranking of the states in per pupil state revenues for special education with the rank increasing numerically with the size of the state provision.

Column six of Table 4 provides another viewpoint for considering state programs and the levels of adequacy they imply within the state system. Average per pupil state special education revenues are listed as a percent of overall average per pupil expenditures. This percentage offers a comparison of the average state allocation per special education student in relation to the overall expenditures per pupil in the state. Although these figures are really not comparable, with one being a measure of revenues and the other a measure of expenditures, the resulting percentage provides another basis of comparing the average amount of state revenues per SE pupil to an implicit

TABLE 4

SUMMARY DATA - STATE SPECIAL EDUCATION PROGRAMS

	% TOTAL ENROLL SERVED (1)	SE $ PER SE PUPIL (2)	SE $ PER SE STU RANK (3)	CLI ADJ SE $ PER PUPIL (4)	TWI ADJ SE $ PER PUPIL (5)	SE REV AS % OF AVG EXP (6)
ALABAMA	9.15	1080	34	1167	1222	71.90
ALASKA	10.29	2358	49	N.A.	1589	49.35
ARIZONA	8.91	593	14	562	499	26.53
ARKANSAS	8.83	591	13	651	773	39.39
CALIFORNIA	7.99	1242	40	1084	1022	62.12
COLORADO	8.36	802	21	750	774	38.47
CONNECTICUT	10.32	920	26	720	863	33.42
DELAWARE	12.32	1593	44	1349	1532	59.81
FLORIDA	8.48	1739	46	1774	1782	92.22
GEORGIA	8.95	721	17	749	803	54.19
HAWAII	6.44	1652	45	N.A.	1309	89.06
IDAHO	9.18	1180	38	1151	1349	76.54
ILLINOIS	11.78	832	22	760	733	33.53
INDIANA	8.69	438	6	428	445	23.72
IOWA	9.97	1574	42	1549	1614	62.83
KANSAS	8.55	698	16	700	791	38.24
KENTUCKY	9.08	1003	28	997	1101	58.27
LOUISIANA	11.43	1017	30	1062	1148	56.62
MAINE	10.11	584	11	598	694	31.43
MARYLAND	10.93	788	19	655	677	34.01
MASSACHUSETTS	12.99	1078*	33	941	940	39.11
MICHIGAN	8.17	678	15	633	544	28.87
MINNESOTA	9.78	587*	12	548	543	24.21
MISSISSIPPI	7.94	1240	39	1361	1607	76.06
MISSOURI	11.06	390	4	381	443	21.29
MONTANA	7.63	1776	47	N.A.	1894	79.04
NEBRASKA	10.49	538*	9	531	614	26.01
NEVADA	7.79	1089	35	958	1016	60.29
NEW HAMPSHIRE	6.29	517	8	456	634	34.14
NEW JERSEY	11.36	1164	37	939	1017	40.25
NEW MEXICO	6.91	1069*	32	1058	956	57.66
NEW YORK	6.75	1061	31	903	836	34.89
NORTH CAROLINA	9.30	851	23	906	921	47.30
NORTH DAKOTA	7.91	795	20	768	963	48.13
OHIO	9.08	1122	36	1055	1131	58.53
OKLAHOMA	9.81	425	5	466	499	20.57
OREGON	8.75	296	3	284	286	12.06
PENNSYLVANIA	9.71	1352	41	1336	1264	54.12
RHODE ISLAND	8.91	901	25	819	770	35.53
SOUTH CAROLINA	11.25	440*	7	469	521	27.89
SOUTH DAKOTA	6.85	213	1	214	264	11.91
TENNESSEE	12.47	567	10	609	656	35.23
TEXAS	9.53	950	27	1022	1051	55.88
UTAH	10.85	739	18	703	757	45.98
VERMONT	11.97	878	24	816	1065	48.52
WASHINGTON	6.74	1017	29	936	827	45.09
WEST VIRGINIA	7.90	240	2	265	272	12.78
WISCONSIN	6.82	1575	43	1486	1510	64.07
WYOMING	10.11	1980	48	1897	1982	84.53
U.S. AVERAGE	9.27	958	--	858	949	45.99

NOTE: No data available for the State of Virginia.
* Revenues for 1980 are based on 1975 revenues multiplied by the average increase in special education revenues across all of the states.
Source - Special education students served and revenue data is from ECS publication "Financing Educational Services For Special Populations: The State and Federal Roles." by Allan Odden and C. Kent McGuire, May, 1980.

state standard of adequacy for regular students. Some insight is gained into the tacit resolution within the state as to the appropriate level of additional educational resources for special education students. The percentages shown in column six represent additional dollars allocated to special education students. In the State of Alabama, for example, the 71.9% figure indicates that special education students receive about 71.9% more state dollars than the total dollar expenditure in the state per average student.

The range of state aid per special education pupil to average expenditures in the state is quite large indicating considerable differences in the implicit standard adopted by states in determining the appropriate level of additional educational resources required by special education students. At the bottom of this range is South Dakota which provides state revenues per average SE student that are 11.9% more than the average per pupil expenditure in the state. The largest relative percentage is found in the state of Hawaii (89%).

3.4.2 Bilingual Programs

Table 5 lists the states offering bilingual programs at the state level during the 1979/80 school year, the state appropriation for those programs for the 1978/79 school year, the number of children served in bilingual programs in 1978/79, the average state expenditure per bilingual student for 1978/1979 and the percentage of the total state enrollment served in bilingual programs in 1978/79. Once again, there are a number of reasons to question the comparability of this data across the various states offering bilingual programs at the state level. It is interesting to note, however, which states offer specific state programs for bilingual students and which do not, despite relatively large minority populations in the state. The Table also shows a fairly large disparity in state dollars per bilingual student across the states offering state bilingual programs.

Perhaps the most likely basis for predicting the presense of a bilingual program at the state level is the percentage of the state population that might require bilingual training. One readily available statistic that casts some insight into the need for a state bilingual program is the percent Hispanic population in the state. This is, of course, an imprecise measure as it excludes other minorities that may require bilingual schooling and because large portions of this Hispanic population may be native English speakers or proficient in the English language. But it is somewhat surprising to find states with fairly substantial Hispanic populations that do not provide state categorical aid for bilingual programming.

Florida, for example, which had a percent Hispanic population of 7.3% in 1976 does not currently have a state bilingual education program even though this percentage has undoubtedly risen considerably over the last several years with the influx of Cuban refugees. Florida reports that bilingual programs in the state are administered locally and are supported by local and federal dollars. The federal allocation in Florida, however, for the 1979/80 school year was only 3.3 million dollars (McGuire, P. 14) as compared to such other large Hispanic population states as California, Texas and New Mexico with

TABLE 5

STATE BILINGUAL PROGRAMS

States With State Bilingual Programs	78/79 State Bilingual Appropriation (1)	# of Child. Served In The State Bil. Program (2)	State Bil. Expenditure Per Bil. Student (3)	% of Total State Enr. Served In Bil. Progs. (4)
Alaska	* 5,900,000	8,750	$674	9.6%
Arizona	1,000,000	20,000	50	3.9
California	23,900,000	233,000	103	5.6
Colorado	2,100,000	17,000	123	3.1
Connecticut	1,400,000	11,600	121	2.0
Hawaii	830,000	4,000	208	2.3
Illinois	14,600,000	34,100	428	1.6
Kansas	300,000*	2,000	150	0.5
Louisianna	1,200,000	60,000	20	7.3
Massachusetts	8,300,000	13,100	633	1.4
Michigan	4,000,000	16,600	241	0.8
Minnesota	400,000	700	571	0.08
New Jersey	6,900,000	24,000	288	1.8
New Mexico	2,700,000	35,500	76	12.7
New York	1,900,000	N.A.	N.A.	N.A.
Rhode Island	200,000	2,600	77	1.6
Texas	5,200,000	117,300	44	4.1
Utah	317,000	3,000	106	0.9
Washington	500,000	N.A.	N.A.	N.A.
Wisconsin	1,400,000	2,000	700	0.2

* 79/80 Appropriation

Source: 1978-79 Bilingual Education Survey. Denver, Colorado.: Education Finance Center, Education Commission of the States. 1979.

38.1, 19.6 and 5.5 million in federal dollars respectively, in addition to the state bilingual dollars. This also seems to run counter to the strong state role in Florida of supporting the major supplementary educational programs. Florida has, for example, a highly detailed weighting approach to special education funding and a fairly substantial compensatory education program at the state level.

Two other states with reasonably large percent Hispanic populations which do not currently operate state bilingual programs are Nevada (5.7%) and Idaho (3.2%). In contrast to these states, Minnesota and Wisconsin have state bilingual programs with percent Hispanic populations of only %0.53 and %0.72. The programs in these states may, of course, be largely in place to support the bilingual needs of other, non-Hispanic, minorities in the state.

3.4.3 Compensatory Education

Table 6 lists the twenty-three states offering categorical aid for state compensatory education (CE) programs. This category of children was first defined in 1965 with the passage of the Elementary and Secondary Education Act. Title One of this act provides federal funds for certain categories of children that are primarily distinguished by low income. While federal funds are primarily allocated to school districts on the basis of poverty concentrations, some state programs have elected to allocate state funds on the basis of educational need. These states, as are indicated in Table 6, allocate state compensatory education funds on the basis of such factors as the number of children achieving below grade level (Georgia) or the number of students in the lowest quartile on state achievement tests (Florida). Table 6 also lists the total amount of state funds allocated and children served by the state program in 1979/80 and the estimated number of children receiving ESEA Title I federal dollars in the state.

The most interesting point to be made concerning the adequacy of state compensatory education programs may simply be a comparison of the states offering CE programs with the twenty-seven states which do not offer supplemental funding for compensatory education at the state level. While it might be predicted that state programs would be most likely to exist in states where the need appears to be the greatest, a measure of Title I children as a percentage of the total enrollment in the state indicates that this is not necessarily the case. The average Title I percentage for the states with supplemental state programs is 9.1% as compared to an average 11.2% for those states without state compensatory education programs. Furthermore, not one of the six states with the highest concentration of children eligible for Title I funds offers a supplementary state program (Mississippi 20.4%, Louisianna 19.1%, South Carolina 18.1%, Alabama 17.4%, Arkansas 16.7% and Kentucky at 16.3%). The state with the highest percentage of Title I eligible children with a state CE program is Texas (15.3%). The major factors governing the existance of state CE programs may be state wealth and regional preference. Clearly this phenomenon is regional in nature with the 73% of the states in the New England, Northeast, Great Lakes and Far Western states offering programs as compared to 25% in the Southeastern, Southwestern, Plains and Rocky Mountain states.

TABLE 6

COMPENSATORY EDUCATION PROGRAMS

States With State Compensatory Education Programs	Bases of Disadvantage Econ. (1)	Bases of Disadvantage Educ. (2)	State Funds 79/80 (3)	Est # of Pupils Served 1978/79 (4)	# of Title I Pupils in the State 1978 (5)
Alaska	X		$ 7,700,000	N.A.	4,361
California	X		159,000,000	N.A.	568,271
Connecticut	X		7,000,000	N.A.	56,068
Florida		X	28,700,000	N.A.	156,540
Georgia		X	12,700,000	158,000	142,505
Hawaii	X		2,000,000	7,400	11,887
Illinois	X		200,000,000	175,000	161,590
Indiana	X		(add-on weight .2)	N.A.	116,111
Maryland	X		14,700,000	16,000	78,500
Massachusetts	X		(add-on weight .2)	N.A.	59,621
Michigan		X	32,900,000	132,000	146,273
Minnesota			(add-on weight .5 to 1.1)	N.A.	66,231
Missouri	X		(add-on weight .25)	N.A.	91,291
Nebraska	X		(add-on weight 1.0)	N.A.	30,636
New Jersey	X		68,300,000	340,500	97,354
New York		X	136,900,000	478,000	352,944
Ohio	X		57,000,000	625,000	126,216
Pennsylvania	X		($165-$400 per pupil)	N.A.	272,381
Rhode Island	X		2,000,000	N.A.	17,351
Texas	X		42,900,000	190,000	437,455
Utah	X		1,000,000	5,000	19,184
Washington	X		5,000,000	N.A.	56,984
Wisconsin		X	1,250,000	2,000	63,090

Sources:

Col 1-3 McGuire, Kent C., "State and Federal Programs for Elementary/Secondary School Students with Special Needs. ECS, Denver, May 1981.

Col 4 School Finance at a Fifth Glance. ECS, 1980. "State Compensatory Education Program Characteristics and Current Funding Levels for Sixteen States (1978-79)" ECS, May 1979.

Col. 5 The Condition of Education, 1980. P. 62.

Of the states offering CE funding, there are significant differences in the breadth and depth of their programs. Of the eight states for which data is available, three states, Georgia, Illinois and Michigan, serve a state population in CE programs that is very closely linked to Title I eligibility. The other states, however, show large differences in the populations served by state as opposed to federal programs. Of the remaining five states, three serve significantly more students in their state programs and two significantly less. The largest extreme is seen in the state of Ohio which supports nearly five times the number of children in the state eligible for Title I funds in its state CE program. Maryland, on the other hand, only allocates state funds to 20% of the number of children eligible for Title I funds. Differences in the level of support per CE pupil across the state programs is also shown to be immense, with a CE pupil receiving more than fourteen times the 80 dollar amount received by his or her counterpart in the state of Georgia.

3.4.4 State Funding Approaches to Special Educational Programs

Beyond the simple analysis of expenditure levels, a second method of viewing the state approaches to the issue of adequacy is the underlying rationale behind their funding formulas. One relatively simple underlying principle that would be expected to drive these formulas is a connection between the dollars districts receive and the relative costs they face in providing equivalent levels of educational services. Indeed the level of sophistication in the state approach to tightening this linkage is the very essence of an asurance at the state level that some prescribed minimum level of educational services will prevail throughout the state. Thus, equal in importance to the overall level of state support is the adequacy of the state mechanism for allocating the funds available to where they are most required. As an example of special program funding approaches, Section 2.4.4 will examine the most commonly used state allocation approaches for special educational programs and provide some analysis as to their relative adequacy in directing state dollars to educational programs in the state.

The most common approach for the funding of special education programs is the pupil weighting system with thirteen states utilizing some variant of this approach. The second and third most commonly used approaches are the unit and the excess cost approaches with ten and nine states using these respectively. Demonstrating the lack of a relationship between the state approach and expenditures, of the five highest SE expenditure states per pupil, with CLI controlled, two use a weighted approach, two a unit approach and one an excess costs approach. Of the five lowest SE expenditure states, two use a weighted approach, with the other three using the percentage, block and unit approaches.

Of those states utilizing a weighted funding approach a great deal of disparity is observed in the number of categories designated, the approach to counting students, and in the resulting dollars per SE student as reported in Table 5. For example, of the sixteen states utilizing some form of a weighted approach to SE funding, nine use a fairly detailed weighting system with eight or more weights while the other seven use much simpler systems with four or less weights. There is also a great deal of variation in the weights

actually adopted for the various categories in different states. While Indiana weights its category "severely and profoundly mentally retarded homebound" at .57, Florida weights a similar category, "hospital and homebound," 14.14, and Utah and South Carolina weight their closest equivalents at 1.8 and 2.1 respectively. While these categories are clearly not totally comparable it would seem likely that some proportion of children with identical "homebound handicapping" conditions being weighted at 14.14 in Florida would only be weighted at 1.57 in Indiana (.57 being the add-on weight).

Utah and Florida have weighted funding systems that are intended to reflect the costs actually incurred by the programs for particular handicapped pupils by differentiating between part and full-time students and those being served in self-contained special classes as opposed to regular classes. Another approach used in the State of Florida to attempt to bring state aid closer to actual program costs is a full-time equivalent student counting system. That is, while an "emotionally disturbed" child receives an additional add-on weight of .9 in Utah, a part-time "emotionally disturbed" pupil in the State of Florida is weighted 3.59 multiplied by a factor indicating the length of time per week the pupil is receiving emotionally disturbed special classes. Thus, while the total weight for an "emotionally disturbed" pupil in Idaho will always be 1.9, in Florida it will vary according to the percentage of overall school time the child spends in this special servicing category. Thus, the total weight in Florida for a learning disabled student being serviced five hours per week (out of a maximum of 25) is: (LD Weight X LD % Time) + (Regular Class Weight X Regular Class % Time) = Overall Weight of (3.59 X .2) + (1.0 X .8) = 1.518. While the weight for this category appears considerably higher in Florida, because of the FTE pupil weighting approach, the resulting weight in practice can actually be lower than in states giving all pupils a weight of one and then adding on their additional handicapping weight irrespective of the percent time they are actually served by special programs.

The rationale behind a student weighting system is, of course, reimbursement by the state for the additional costs that students with special learning characteristics require. State officials report that the actual numerical amounts of the weights are the result of past cost experiences, political considerations and professional sentiment concerning what programs <u>should</u> cost in relation to one another. But, even in Florida, with its highly detailed weighting system, a great deal of disparity is found in the actual costs of the services being provided within handicapping conditions. For example, the <u>actual</u> average costs (as reported in the 1979 Florida Statistical Reports) for unweighted FTE pupils for the category, physically handicapped, which is weighted by the state at a uniform 3.4, varied immensely across the thirty-six districts offering it with fourteen districts experiencing average costs under $3,000 and three experiencing average costs over $15,000. Even in such a relatively low variation category as Trainable Mentally Retarded, the district with the lowest costs per pupil realized an average cost that was only 35% of the average in the highest cost district. How much higher must this cost variation within weighting categories be in states with less detailed weighting systems and a considerably larger number of districts than Florida's sixty-seven?

Thus, one problem of a weighted approach is that the weights assigned are most often linked to handicapping conditions rather than the programs in which the students are served. As there is often a great deal of variation in the programs children require even within handicapping conditions, weights are often not closely associated with costs. Another reason that weights tend to be disassociated with costs is their failure to reflect marginal cost. The initial number of children within a given handicapping condition required to begin a program may be quite costly per child, but once this program is in place, the cost of an additional child may be minimal.

The second most common approach to SE funding, the unit approach, includes a wide variety of funding practices, some detailed and others quite simple. A unit approach may, for example, specifiy the same programmatic detail often found in weighted systems and also be designed to better reflect the marginal cost aspects of special education programming by funding SE on the basis of full classroom units. Delaware, Louisianna and Washington all have detailed classifications in their special education financing approaches. In Delaware the number of students required to fund a SE unit is dependent on the handicapping condition. Twelve conditions are listed with unit requirements varying from a minimum of four children to fund a deaf-blind or autistic unit to fifteen for an educable mentally handicapped unit. Similarly, Washington utilizes eleven handicapping categories. Louisiana has a relatively sophisticated unit approach specifying minimum and maximum numbers of pupils per special education teacher or therapist.

Most instructional unit approaches to special education funding, however, are much more simplistic. The considerable range of variation in the resource requirements of different handicapping conditions are often not considered and all special education students may be counted alike for the purpose of state special education grants. In Alaska, for example, the number of instructional units allowed is simply based on the overall special education average daily membership in the district. Other states, such as Oklahoma and Kansas, simply provide a flat grant amount per "certificated special education teacher." While this approach allows much discretion at the local level where expenditures may be best accounted for and the handicapping requirements of children most ably recognized, these grants are often considerably less than that required to support special education units and therefore tend to be disequalizing, i.e. the level of resources a student with special educational requirements would be likely to receive in the state will be correlated with the ability of local districts wealth.

The unit approaches used by the states of Nevada, Texas and North Carolina are perhaps the farthest removed from the actual incidence of handicapping conditions within districts, and therefore the relative need of districts for supplemental special education funds. Nevada, for example, simply allows a special education unit for every ten teacher allocations "provided special education program units are operated," in the district (Tron, p. 193). In Texas, the allowable number of units is based entirely on the overall average daily attendance in the district, being reduced if less than 12% of the student population is actually served in some kind of special education program (Ibid. p. 280). And in North Carolina, the state board of

education funds a set number of special education teachers and then allocates them to districts on the basis of the overall average daily membership in the district as compared to the average daily membership for the state. Thus the special education financing approach of these three states distributes funds to special education students in a manner that is unrelated to the resources their handicapping conditions require or their number relative to the total student population in the district. Furthermore, Texas, by basing the district special education allocation on average daily attendance, arbitrarily penalizes special education programs in low attendance districts, which are often also low socioeconomic status.

Three kinds of reimbursement approaches are utilized by the states to fund special education programming: partial or percentage reimbursement, execess costs reimbursement and full reimbursement. There appears to be a great deal of overlap in the actual practice of these various reimbursement approaches. The states that reimburse at less than 100% generally provide from 67% to 90% reimbursement. While the states utilizing these partial reimbursement approaches generally fall close to the average state expenditure per special education student across the nation ($968), there are some notable exceptions. The state of Oregon, for instance, which is one of the lowest expenditure states per special education student departs significantly from the common percentage range of the reimbursement states by returning only 30% of the approved costs of educating handicapped children. Another reimbursement state with a relatively low average contribution, New Hampshire, reimburses districts only for special education costs that exceed twice the average per pupil cost in the state.

The amount of the percentage reimbursement is often, but not always indicative of the average contribution in the state per handicapped student. The states of Minnesota and Wisconsin, for example, have very similar percentage reimbursement rates of 69% and 70% but vary considerably in the average allocation per SE student ($584 versus $1575 per SE pupil). While the dollar amounts per student shown in Table 5 may be misleading as Minnesota is also shown to serve 9.78% of its total student population in special education programs as opposed to only 6.82% in Wisconsin, the extent of the reimbursement in Wisconsin is much broader. It is much more liberally applied, for example, to the reimbursement of required auxillary personnel and contains no ceiling on reimbursable salaries of SE instructional personnel as is found in Minnesota.

As would be expected, the three states that come closest to a full reimbursement program, and therefore provide the greatest incentive for districts to extend special education services to eligible children, are among the highest in average SE pupil expenditures. These states, Pennsylvania, Montana and Wyoming show average SE expenditures of $1352, $1776 and $1980 per SE student respectively. Interestingly, in addition to being the highest spending state per SE student, Wyoming also allocates SE funds to a percentage of its total school enrollment (10.1%) that is higher than the national average (9.3%). The other two full reimbursement states serve SE populations that are lower than the national average percent served (at 7.63% and 9.11%).

In summary, even if the data listed in Table 4 were entirely comparable, assessments as to the adequacy of the various state special education programs can not really be determined on the basis of comparing dollars spent per SE student. It is interesting to note, however, the varying levels of sophistication of the approaches employed by states in allocating state funds to children with special educational needs. Some states clearly distribute the funds that are available to meet the educational needs of SE children in a much more systematic way than others. That is, some states have implicitly established adequacy standards for their special education population by specifying the eligibility for these allocations in great detail and by employing a complex system that distributes funds on the basis of the actual needs of children. Many other states have not established any implicit or explicit statewide guarantees to children with special learning requirements and have passed on to the districts the state responsibility for ensuring a "thorough and efficient" education or an education that is "adequate to meet the needs" of the student population in the state. Some states seem to simply serve as a conduit for money in distributing funds for special education programs in a somewhat random and haphazard manner that fails to recognize variation in the handicapping requirements of the SE populations throughout the state.

Thoughtful detailed approaches as opposed to aggregate more simplistic approaches seem to occur across the various financing mechanisms for SE funding. Pupil weighting or unit approach systems may employ only a few very broad categories or may be specified in great detail. Reimbursement plans, however, are generally the farthest removed from any systematic approach at the state level for the provision of a state special education program. As the reimbursement is often not equalized, the local share may be much more difficult to bear in low wealth districts with the result that fewer overall resources will be allocated to the children of these districts with special education needs. Even in full reimbursement states an equality principle of equal resources for children with similar special education requirements will generally not hold if the determination of what is "adequate" is to be made entirely at the local level.

Thus, in attempting to assess the adequacy of the various state approaches to the funding of special education, the amount of dollars expended per SE pupil may be a less appropriate measure than the degree of effort made by the state, as is evidenced in the state special education funding approach, to specify what the statewide requirements regarding SE pupils should be and the development of a systematic, well-considered approach to meeting them.

3.5 OTHER BASES FOR COMPARING EDUCATIONAL ADEQUACY

Table 7 lists five other comparative measures of educational adequacy across the states. All of these data represent differing input measures of the state public educational provision. That is, they provide differing insights into the actual levels of resources allocated to public schooling in the states as well as thebreadth of the public educational provision. Several caveats are in order prior to the consideration of the data contained in this

TABLE 7

OTHER STATE MEASURES OF EDUCATIONAL ADEQUACY

	AVG # OF DAYS IN TERM 1975-76	AVG # OF DAYS ATTENDANCE 1975-76	# OF YEARS REQUIRED 1977	AVG # OF PUPILS PER TEACHER 1978-79	PREPRIMARY ENR AS A % OF FIRST GRADE ENR 1978
ALABAMA	175.9	162.7	9	18.7	38.5
ALASKA	179.9	161.1	9	17.9	87.5
ARIZONA	175.0	158.6	8	19.9	83.1
ARKANSAS	175.0	161.1	8	19.8	74.2
CALIFORNIA	176.0	170.5	10	20.2	94.4
COLORADO	179.7	163.3	9	18.9	92.1
CONNECTICUT	180.0	161.3	8	16.6	100.0
DELAWARE	180.0	161.4	10	18.5	86.6
DIST OF COL	182.0	163.7	9	19.1	108.6
FLORIDA	180.0	163.3	9	21.1	78.1
GEORGIA	180.0	161.7	9	20.5	N.A.
HAWAII	177.9	161.0	12	21.5	97.7
IDAHO	180.0	163.6	9	20.7	82.0
ILLINOIS	174.1	149.6	9	18.6	134.9
INDIANA	181.4	159.1	11	20.7	87.4
IOWA	175.8	161.8	8	17.0	98.8
KANSAS	180.0	165.0	9	16.2	97.6
KENTUCKY	175.2	154.6	9	21.1	54.2
LOUISIANA	179.7	159.7	8	19.6	72.7
MAINE	175.4	156.2	8	17.3	90.7
MARYLAND	181.4	160.3	10	19.0	102.6
MASSACHUSETTS	181.0	158.6	10	18.3	94.3
MICHIGAN	180.0	167.8	10	21.8	95.3
MINNESOTA	176.5	162.7	9	18.2	103.3
MISSISSIPPI	177.3	162.5	7	19.2	5.4
MISSOURI	175.0	153.7	9	18.4	91.5
MONTANA	180.7	161.4	9	17.0	84.4
NEBRASKA	176.8	163.0	9	16.8	101.0
NEVADA	180.0	161.8	10	23.2	86.2
NEW HAMPSHIRE	179.6	161.2	10	19.4	30.5
NEW JERSEY	180.3	158.8	10	17.1	95.4
NEW MEXICO	180.0	165.0	12	20.1	87.3
NEW YORK	177.3	153.8	10	19.6	88.9
NORTH CAROLINA	180.0	166.8	9	21.0	83.6
NORTH DAKOTA	180.1	169.7	9	16.5	40.6
OHIO	178.1	160.2	12	20.5	97.3
OKLAHOMA	175.1	161.2	8	16.3	87.9
OREGON	178.0	155.4	11	19.2	51.9
PENNSYLVANIA	180.6	162.7	9	18.5	89.7
RHODE ISLAND	180.0	158.9	9	17.2	86.0
SOUTH CAROLINA	180.0	165.9	9	20.8	66.6
SOUTH DAKOTA	175.7	160.8	10	16.9	91.9
TENNESSEE	175.7	162.3	9	21.2	79.7
TEXAS	179.7	159.7	11	18.5	87.5
UTAH	180.0	164.8	12	24.6	107.7
VERMONT	177.0	162.1	9	15.6	63.4
VIRGINIA	180.4	163.1	12	18.6	84.4
WASHINGTON	180.0	162.5	6	22.0	90.9
WEST VIRGINIA	179.1	159.2	9	20.0	83.7
WISCONSIN	180.1	157.2	10	18.6	115.0
WYOMING	180.4	164.8	9	16.2	96.7
UNITED STATES	178.6	161.3	9.39	19.1	86.3

Source: The Digest of Educational Statistics, 1980. Columns 1,2 (p. 39), Column 3 (p. 40), Column 4 (p. 50), and Column 5 (p. 19). Column 6 is from the Education Almanac, 1979. P. 9.

table. First, as is indicated, they are representative of different years with nearly a decade separating the most recent from the most dated counts. Second, for a number of reasons that will be discussed in more detail in subsequent paragraphs, these data may not be representative of the current levels of educational provision in the state. They probably do, however, at least partially reflect prevailing standards in the states and provide some insight into adequacy standards that have historically been in place.

Column one lists the average number of days in the term in the districts across states. Perhaps the most salient point to make concerning this measure is the lack of variation. Over the years, the length of public school provision per year has grown more and more similar across the states such that the range of these data is only eight days between Illinois (174.1) and the District of Columbia (182.0), with a standard deviation of 2.17. It is interesting to consider, however, that over the full length of a child's public schooling experience, counted at twelve years, the amount of public schooling offered a child in the District of Columbia is greater than the average number of days provided in Illinois by nearly 94 days or half a year of schooling by the national norm of 178.6 days offered per year. Although it may be inappropriate to use the District of Columbia, which is a single school system, for comparing state averages, the states of Indiana and Maryland are not far behind the length of provision of Washington D.C. (182.0) with both offering an average of 181.4 days per year.

A similar measure, shown in column two, lists the outcome-type measure of the average number of days of attendance per year for the students of the state. While this figure may partly reflect the demography of the state, such as attendance problems which often accompany the other social problems which tend to gravitate to the nation's very largest cities, it will also be reflective of the states' overall effort, beyond simply offering public schooling, to actually get the children of the state into school on a regular basis. Regardless, the educational outcomes that are associated with schooling will not result from the number of days offered, but from the number of days that children are actually in attendance in the states' public schools. Here we see a much larger range than was found in the previous measure of days offered, with the average public school child in California (170.5) attending school nearly twenty-one more days per year than the average child in the state of Illinois (149.6). The standard deviation is also somewhat larger at 3.88. The number of days of attendance nationally is 161.3 indicating that the average child in the U.S. is absent over seventeen days per year. Again, extending the range between the states of California and Illinois over the twelve average years of public schooling, it is found that the average child in California would be in attendance over 250 more school days than the average child of Illinois. In terms of the national average number of attendance days, this represents over one and a half school years.

Column three of Table 7 lists the number of years that school enrollment is mandatory across the states. The national average is 9.39 years with the range of required years being fairly substantial with two states mandating only seven years while five states require twelve years of schooling. These data are most interesting for the insights gained into the implied values of the states in selecting a required number of years of schooling as an adequate

minimum. These figures are not closely linked to the median number of years of schooling completed as is illustrated by the fact that in the state of Washington, where only seven years of schooling are required, the median number of years of schooling completed is near the nation's highest (12.5 years) at 12.4 years. An extention of the minimum requirements for schooling across the states can be seen by multiplying the average number of days of schooling offered by the required number of years. The result is that the state of Mississippi (1,241 required days) only mandates 57% of the schooling required in the state of Virginia (2,164 days).

Another interesting resource measure that can be used for comparing the adequacy of the educational provision is the pupil/teacher ratios existing across states. The national average is 19.1 students per teacher with a standard deviation of 1.89. The range, between the states of Vermont (15.6) and Utah (24.6) is fairly considerable at an average of nine more pupils per teacher in the latter state. Assuming that with other things equal higher salaries will attract more qualified teachers on average, some insight into the "quality" of the teaching forces in the various states can be gained from the teacher wage index listed in Table 1. While this approach clearly has limitations, it could be argued that one factor enabling relatively small classes in the state of Vermont is the relatively low reimbursement in the state for teachers (teacher wage index value of .824) and that some implicit trade-off of quality for quantity may be made in the process.

The last column, preprimary as a percent of first grade, is a measure of the breadth of educational offerings across states as they extend to a thirteenth year of public schooling for young children. It will be noted that eight of the states show preprimary enrollments that actually exceed the first grade enrollments in the state. This could reflect a demographic trend in the state or the fact that some districts across the nation are providing public schooling prior to kindergarten. These data indicate that preprimary schooling is the prevailing norm across the states with 41 of the 50 states and Washington D.C. enrolling over 75% of their first grade enrollments in preprimary programs. Sixteen states enroll between 50 and 75%, and four states are below 50% preprimary enrollments. The state of Mississippi is a real outlier in this category of provision with preprimary representing only 5.4% of first grade enrollments.

3.6 ASSURING ADEQUACY THROUGH STATE PROVISION

All of the fifty states have adopted official language accepting the overall responsibility for the provision of education. And yet some states have approached this task in a much more methodical fashion than others. While the principles of equalization and minimally adequate provision are included to some degree in all of the state approaches, explicit standards are much more clearly delineated in some states than in others. Three components of a state aid scheme may be identified. One, the state aid may primarily function as a conduit for money to local districts to assist them financially in whatever levels of educational provision they may choose, or can afford, at the local level. In a second approach, state aid may operate to equalize the opportunity to provide educational services at the local level so that

provision is a function of local discretion rather than wealth. A third level may be the delineation at the state level of a minimally adequate program that is guaranteed all of the children of the state and which is specified in terms of specific educational resources.

The purpose of this section is to consider how states with well-defined "adequate" programs have addressed the issue of adequacy in terms of specific educational provision in their states. This section will employ a case-study approach to look at a few states in more detail.

3.6.1 Georgia - The Adequate Program for Education

Created and organized by the Georgia General Assembly in the spring of 1973, the Minimum Foundation Program of Education Study Committee was charged with the goal of "improving education in Georgia." Three subcommittees were formed, chaired by such notables as Governor Jimmy Carter, with the overriding objective of determining a statewide approach to the provision of an "adequate" education for the children of the state. In December of 1973 a report was released outlining the specifics of an "Adequate Program for Education in Georgia (APEG)." This led to the APEG Act which became effective July 1, 1975.

The language of the Act indicates its intent: "The General Assembly of Georgia, recognizing the need for...an adequate educational oportunity...for the citizens of the state and...the responsibilities and obligations of the State to ensure a literate and informed society does hereby establish an Adequate Program for Education in Georgia. To implement this policy, the State shall assure that funds will be available for instructional personnel, media and equipment, and other necessary operating expenses..." This law calls upon the state to fund specific resources on the basis of pupil/teacher ratios which are delineated at the state level for certain categories of students. The resources that are specified in the state funding formula include instructional personnel, administrative and supervisory personnel, school psychologists, instructional media, instructional equipment, maintenance and operation, sick and personal leave, travel, transportation, and isolated schools. Although some local participation is included in the APEG program, the state has assumed responsibility for the lion's share of the funds (90.6% for the 1980/81 school year).

The purpose of the APEG program is to establish and fund "adequate" levels of educational resources which local districts are free to supplement but which no district may fall below. Thus, while there is a well-defined minimum, there is no real ceiling governing district expenditures, which allows considerable wealth related disparities. Thus, the APEG approach does not guarantee equality in the educational provision received by students across the state. In fact, 90% of the school districts are currently supplementing the state salary schedule for personnel with local funds. Furthermore, while the law includes provision for district business officials and physical education, art and music teachers these positions have never been funded. A further provision of the law defining a district power equalizing component has also never been funded and appears unlikely to be funded with increasing pressures mounting in the state to give local tax relief instead.

Thus, while the state of Georgia has a thoroughly considered "adequate" program for the state, and has generally provided the necessary funds to support it, considerable wealth related disparities remain throughout the state. This has resulted in litigation which has thus far gone against the state, instructing the legislature to make substantial revisions in the APEG program.

3.6.2 South Carolina - The Defined Minimal Program

While legislation outlining minimal standards had been in place for a number of years at the state level in South Carolina, it was the Rodriguez decision, according to one well-placed official, that aroused the consciousness in the state leading to school finance reform as a major issue in the following gubernatorial election. Upon election, the new governor appointed a study committee which recommended that the minimal provision that had always existed in the state be more precisely defined in terms of specific educational resources. Thus, a Defined Minimal Program evolved from the Education Finance Act of 1977 which provides a detailed weighting system for the state across basic education grade levels and for the various special education categories. The Defined Minimal Program also establishes in some detail specific resource requirements for all accredited schools in the state.

Responsibility for the cost of the defined minimum program is assumed by the state as the annual appropriation for education must be sufficient to finance its specified requirements. If the legilature fails to approve sufficient funding the guidelines must be altered accordingly. A representative body of teachers, principals and administrators convenes annually to review the current requirements of the defined minimum program with their recommendations being forwarded to the state department of education. If approved by the department, they are then sent to the legislature for enactment into law. Any new enactment, however, must be accompanied by a corresponding financial provision to cover its cost. Thus, we see in South Carolina a well-considered minimum program for the school children of the state which is defined in terms of educational resources and which is financially guaranteed by the state.

Although the requirements of the minimum adequate program in the state of South Carolina and the rationale behind the weighting system appear to be higly objective in nature, it is important to keep in mind that each represents a highly subjective judgement concerning the resource requirements of children in different educational situations. As is the case with all allocation decisions in the public sector, these specifications are determined and set within the political arena of the state.

3.6.3 Washington - The Basic Education Act of 1977

The constitution of the state of Washington requires "ample provision for the education of all children residing within its borders" (Article IX, Section 1). But in the Seattle decision of 1977 (Seattle School District No. 1, et al., v. State of Washington, et al.) the court ruled that "ample provision" had never been amply defined. It was stated that "...under existing state law, the legislature has established a general and uniform

system for the public schools...but has not (A) expressly defined basic education or determined the substantive contents of a basic program of education to which the children of this state are entitled...or (B) provided a method for the fully sufficient funding of such education without reliance on special excess levies."

The Basic Education Act of 1977 was the result of this ruling. It outlines in some detail, and in terms of specific educational resources, what constitutes a basic education and provides the resources required for its support. Thus, Washington claims to be the first state in the nation (outside of Hawaii with its single state school system) to assume the responsibility for a fully funded basic education program for its public school system (Citizen's Handbook of the Organization and Financing of the Washington School System, June 1981, p. 13). This law provides equalization in programmatic content, staffing and nonemployee allocations and resources. One predictable effect of this reform has been a substantial increase in the state revenue share, which has increased by nearly a third over the past two years while funds at the local level have decreased from 300 million dollars plus, prior to the reform, to a current level of about 170 million dollars.

The case of Washington offers further evidence of the difficulty and political sensitivity of specifying a minimally adequate or basic program in terms of specific resources. According to a top school officer of the Washington Department of Public Instruction, as relayed to the authors via a telephonic interview, when the legislature, which was under pressure from the courts, turned to the professional educational community in the state for guidance in the specification of a basic educational program in terms of specific educational resources, they continually skirted the issue and refused to grapple with it beyond the usual platitudes. The education community was seemingly unable to look beyond the current levels of provision in the state in attempting to define a basic education, with the resulting definition that a "basic education" must be whatever is currently being offered.

Finally, the legislature took it upon themselves to define what constituted a basic education and enacted the resulting provisions into law thereby satisfying their court mandate. While it is undoubtedly fitting that these allocation decisions should ultimately be made in the political arena, professional educators across the states must enter into these decisions in a more active way by breaking away from what "is" and grappling with the difficult description of what ought to constitute "enough." Unfortunately, as the case of Washington seems to illustrate, when it comes to specifying educational resources, what exists is "basic" and what is required to be "adequate" is simply a good deal more than whatever is currently being provided.

3.6.4 Connecticut - P.A. 79 - 128

Reform in the state of Connecticut has also led to the establishment of guidelines at the state level specifying requirements for minimally acceptable provision at the local level. But, unlike the previously discussed three states, these requirements are simply specified in overall expenditures rather than in educational resources. P.A. 79-128 resulted from Horton v Meskill

in which the court decided that the amount of money spent on education in the state was wealth related which violated provisions of the state constitution. As public education was a fundamental right, a substantially equal educational opportunity is mandated for all students in the public school system, with educational opportunity defined as "the breadth and quality of the educational services" offered to pupils. The existing Connecticut system, which was found to be wealth related, failed to meet these requirements and was therefore declared unconstitutional.

Four of the major components of P.A. 79-128 are as follows. First, the state basic grant is determined by (a) the local school tax effort, (b) need as determined by the number of AFDC families residing in the district and (c) inversely by wealth as determined by a combination of property and income measures. AFDC children are counted as 1.5 pupils in determining state aid and the guaranteed base is the revenue base for the community in the state at the 95th percentile of wealth. Second, a minimum expenditure requirement which is set at whatever the state median per pupil expenditure was two years prior to the current year with AFDC children being counted at 1.5. If districts fall below this minimum required expenditure despite a local tax effort that is above the median effort in the state, state aid equal to the provision of the required minimum will be awarded. Third, state aid is provided for special education and transportation that is reimbursed on a sliding scale on the basis of local district wealth. Fourth, a five year phase-in extending from 1980 through 1984 is specified.

Thus, reform in Connecticut is largely based on a "what is" philosophy rather than on any clearly specified determination of what level of funding is required to guarantee minimally adequate provision across the state in terms of specific educational resources. The major thrust of this reform is to detach educational expenditures from wealth. The guaranteed tax base is based on the community at the 95th percentile of wealth and the minimum expenditure requirement is set at a previous state median. While these provisions may be generous and will undoubtedly raise the overall level of educational expenditures in the state the specific figures of the 95th percentile and past median expenditures may be quite arbitrary in relation to what is required to provide "adequate" educational programming in the state. This issue has been carefully avoided in Connecticut as is evidenced by the following statement in Equity and Excellence in Education, published by the Connecticut State Board of Education to explain the new school finance legislation (P.A. 79-128) to the citizenry of the state: "The minimum expenditure requirement is not viewed as a maximum, or even as necessarily adequate, in providing school services and programs. It is a minimum requirement only." (P. 7)

Problems have arisen in Connecticut with the implementation of this plan. First, setting the guaranteed revenue base at the 95th percentile has resulted in a considerable strain on state coffers with the result that the state was not able to provide the full allocation scheduled for the 1981/82 school year and was forced to simply appropriate a lesser amount than was called for in the specified phase-in. Second, as there are no real limits on what the wealthiest districts will be able to spend, considerable disparities will be likely to remain even after the full phase-in, with one estimate at 1.5 to 1, which can still be expected to relate to wealth.

Third, if the minimum required, and therefore guaranteed, provision is not necessarily "adequate" as acknowledged by the state, can the state be seen as fulfilling its requirement of an equal educational opportunity for all students? It is perhaps not surprising that Horton v Meskill II is currently underway in the Connecticut state courts.

3.7 CONCLUSION

The school finance reform movement, the tax-payers' rebellion and the vast increase in the number of educational services provided for children with special needs are three developments of the past decade which have significantly increased state involvement in the provision of educational services. In response, states have not only assumed a much larger share of the financial responsibility for the support of schools, but the formulas used by the states to disseminate these funds to local communities have become increasingly sophisticated and complex. Contrary to the old flat grant approach whereby the state simply served as a conduit of money to local districts, often irrespective of local need, states are increasingly incorporating certain adjustments into state aid formulas to better reflect the need of local communities for state-level educational funding assistance. Such adjustments have been directed toward disparities in local property, resource prices, and student need.

A number of measures have been cited throughout this paper for the purposes of comparing the basic and supplemental educational programs offered by the states. A great deal of variation is observed in per pupil expenditures across the states, but this variation diminishes considerably when the cost of living is controlled for and it diminishes even more when the average salaries paid instruction personnel are controlled.

The myriad of data presented in this paper listing an assortment of criteria upon which the adequacy of state educational programs may be assessed and compared seems to underscore the elusive nature of the adequacy concept. States or regions that are particularly strong in one measure may appear fairly weak in others. Through the careful selection of data a case could be made for the adequacy or inadequacy of the school systems in any of the states. Clearly the adequacy, or inadequacy, of state educational systems cannot really be determined from this kind of data just as the amount of medicine a patient receives is a poor measure of the adequacy of his health treatment, or his overall state of health.

The last section of this chapter presented four brief case studies of several states which have attempted to address the adequacy issue through a fairly substantial set of state reforms over the past decade. The states that appear to be the most successful in this regard are those that: (1) have attempted to systematically consider what the requirements of education are to be in the state; (2) have defined the resources deemed necessary to meet these requirements; and (3) have provided a state guarantee that the resources necessary to support these minimally adequate requirements will be available to every district in the state. As the definition of adequate is "equal to the requirement," an adequate level of educational support cannot be

determined independently from the consideration of what these educational requirements are deemed to be. These can only be determined within the state and through political processes. Until states have grappled with this potentially sensitive task, the levels of educational resources they provide cannot be deemed adequate, regardless of the overall dollar amounts.

CHAPTER 4

PROGRAM ADEQUACY AND FUNDING: A RESOURCE-COST-BASED APPROACH

Dollars must ultimately underlie the issue of adequate public educational provision. The crucial questions facing educational policymakers are how many dollars should be distributed to acquire educational services, who should receive them and what should be the underlying rationale for making these determinations? To reiterate the assumptions that are basic to our approach to these questions, we believe that given the public policy orientation inherent to the issue of adequate overall expenditures for education, and across the various educational program areas, that the adequacy and equity considerations cannot be severed. These are decisions that will be made in a political arena, and as such, the role of analysis is not to attempt to make but simply to facilitate, these policy determinations.

In this chapter we outline an approach to provide information for, and thereby to clarity, these subjective decisions. It is an approach that we believe is appropriate and potentially useful at all levels of educational allocation decision making, i.e., the local, state, and federal levels. Although for the purposes of this chapter, most references to a proposed basis for a finance system will most directly apply to state formulas, a latter portion of this chapter will address how such an approach might also lead to more coherent and equitable allocations from the federal government.

The approach that we present is highly rational. We do not mean to suggest, however, that it necessarily be the final word in educational policy determination. For example, while it requires that a fairly specific set of policy decisions be made at the state level when used as a basis for a state allocation system, it does not require a great deal of centralized control. The degree of conformity to the state specifications that states may wish to require at the local level is an internal policy decision that is apart from our basic model. What we propose is a rationale for educational funding which will facilitate educational policy decisions by making the trade-offs inherent in different funding decisions more apparent. Furthermore, as an approach that forces the specification of the appropriate ingredients, in terms of the specific educational resources that program experts in the state believe to be "appropriate" to their program areas, a rather specific definition to the meaning of adequacy is derived for the state.

This resource-cost-based approach can be used with any kind of school finance formula. It does not attempt to specify the number of dollars that must or should be spent on educational services in the state, although it will provide input as to what differing expenditure commitments will mean to the school districts of the state in terms of the specific resources they must acquire to provide educational services. Thus, it can inform the determination of how much should be spent. In this sense, it serves as an analytical framework for considering alternative policy options. As an underlying rationale for a school finance formula, however, it provides a

basis for allocating the dollars that are available for distribution for educational services in a manner that is highly equitable and which is based on uniform definitions of program adequacy.

4.1 THE RESOURCE COST MODEL (RCM) AS A BASIS FOR FUNDING EDUCATIONAL SERVICES

4.1.1 What is the RCM?

Basically, the Resource Cost Model (RCM) is a conceptual framework for sorting out the factors underlying differences in educational costs. It provides a systematic method for organizing data relevant to the determination of the cost of educational programs. Specifically, it organizes data on educational resources (i.e., inputs) and resource costs to facilitate estimation of programmatic costs both as they relate to differences in the educational needs of different student populations and to variations in the scale of school and district operations.

The RCM is a computer simulation model that may be used to determine how much each district will require to provide an "appropriate" education to all of its students and to determine the total educational expenditures in the state required to accomplish this goal. It may be used with any number of school finance formulas as a basis for distributing state aid to local school districts.

The RCM in and of itself does not describe what an appropriate set of educational programs should look like. It is designed in the absence of preconceived notions of how an appropriate education ought to be defined. It is designed to facilitate the determination by educational policymakers of how to define an appropriate education and what resources and resource configurations are required. Rather than a set of answers to what is appropriate, the RCM is a set of systematic questions that when answered by policymakers will reveal preferences for educational services and thereby a definition of what is regarded as adequate or appropriate by the policymaking bodies responsible for such decisions.

4.1.2 What is a Cost Difference?

Before proceeding to a description of the components of the RCM, it is important that we begin by describing what is meant by the term cost. The term is conventionally used in a number of different ways and is often used interchangeably with the word expenditure. It is therefore critical to establish a clear understanding of how these two terms are used in connection with the RCM analysis.

A formal definition of cost may be stated as follows: Cost is the minimum expenditure required to achieve some goal or standard of service or to acquire some well defined commodity or service. Thus variations in costs faced by two economic decision-making units reflect the variations in the minimum expenditure required to achieve some objective or acquire some good or service by the two decision-making units.

The concept of expenditure refers to actual outlay for some good or service. Expenditures encompass the concept of cost as it involves both differences in choice and cost. It involves differences in the choice of quantities, types, and characteristics of goods and services. It involves discretion over these elements.

Costs, on the other hand, involve differences in expenditure which are beyond the control of the decision-making unit. The keys to understanding the difference between expenditure and cost are two:

(1) recognizing the difference between factors that involve matters of choice and factors that are beyond the control of the particular decision-making unit, and

(2) specifying a precise definition of the goals or standard of service of which a cost estimate is desired.

These concepts may be illustrated with some simple examples. First, consider two identical families living in different cities, call them cities A and B. Suppose that each family purchased 50 pounds of hamburger (75% lean) over the course of a year at the lowest price available to them in their respective communities, and that these two prices were different. The difference in expenditure each family incurs in making this purchase in these two different cities represents a cost difference which is essentially beyond the control of the two families. One could give similar examples of any well defined commodity or service purchased in the two locations.

Now suppose the family in city A buys 50 pounds of hamburger, while the family in city B buys 50 pounds of steak. The difference in outlay of the two families over the period of time the beef was purchased would be regarded as an expenditure difference which would not necessarily reflect any of the actual difference in cost incurred. Indeed, the observed difference in expenditure between these two families involved both a difference in the basic cost of a pound of beef in the two cities and a difference in the choices with respect to which cuts of beef they selected. To isolate the difference in cost one needs to be able to control adequately for the types and characteristics of the products being purchased in the different locations. In this case, it means sorting out the extent to which the expenditure variation is due to differences in the prices between the two cuts of meat versus differences in the basic price of beef in the respective cities.

To further illustrate how one might distinguish between the differences in cost and expenditure, let us consider the following somewhat more complicated problem. Consider again the two families living in cities A and B. However, let us now define the problem somewhat more broadly. How much more or less does it cost to provide an appropriate level of nutrition to each of the members of these two families over the course of a year.[12] If the two cities A and B were close enough to one another that there was essentially no variation between them on the prices of grocery items and if the two

families were identical in size, health, and age composition (e.g., each consisting of two adults in their mid-thirties and two pre-school children), then their nutritional needs should be essentially the same and hence their costs the same. In actual fact the families might spend quite different amounts on grocery items because of differences in income or tastes. But no matter what their actual expenditure on groceries, the costs of providing some fixed level of nutritional need are the same.

Now let us make one change in our two families. In particular, suppose one of the families had two teenagers and the adults were in their mid-forties, while the other family remains the same. The composition of nutritional needs of all four family members is likely to have changed along with the level of intake. The costs of providing for the families' nutritional needs are now likely to have increased for the older family even though the size of the families has not changed. The cost difference between the two families is the minimum expenditure required in each case to provide for the nutritional needs of each of the family members. One could easily envision more dramatic examples. Consider the differences in nutritional requirements between two families consisting of one couple in their early twenties and another in their late sixties. Here again nutritional requirements are likely to be considerably different leading to differences in the costs of providing appropriate levels of nutrition to the two families.

If we now move these two cities far enough apart so as to increase the likelihood of observing significant differences in the basic prices of certain food items, the cost of providing a certain level of nutrition in the two locations would involve both differences in the prices of the relevant food items in the two locations as well as the differences in the needs of families of different size and age composition.

4.1.3 What are the Sources of Differences in Educational Costs?

With this basic understanding of costs in mind, we can now direct attention to identifying the factors that cause variations in the cost of educational services across local public school districts. Just as in the case of our two families, there are two basic sources of cost differences.

These are:

(1) Resource price differences: differences in the prices that school districts have to pay for comparable school resources or inputs, and

(2) Differences in educational need: differences in the combinations and quantities of school resources required to meet the educational needs of different student populations in schools or districts of different sizes.

The first of these sources of educational cost differences is similar to the problem we confronted in examining the prices of beef in the previous section. When one family purchased steak and the other hamburger, we needed

to somehow bring the price comparison back to some standardized unit of beef in order to consider the extent to which the observed difference in expenditure between the two families (living in these two different cities) could be attributed to a difference in cost as opposed to a difference in the characteristics of the cuts of meat.

In comparing the prices of the resources employed by school districts, we face the same problem of being able to standardize the actual resources they buy in order to determine the cost of these resources. For the school district, we are interested in determining how much more or less a standardized teacher would cost (or how much more or less two teachers with broad sets of personal attributes which are exactly identical would cost in the different school districts of the state). Since school districts, in fact, do not recruit and employ "standard" teachers, the observed differences in salaries that they actually pay do not necessarily reflect cost differences. Only when we are able to compare two districts that employ some "standardized" teacher are we able to determine the differences in costs of teacher services.

We use statistical methods to make this hypothetical comparison. First, we examine the variations in prices (or in this case salaries) paid for teacher services in relation to teacher, job and regional characteristics that related to the variation in the cost of some "standardized" teacher. Second, we perform a hypothetical experiment by assuming all districts recruit and employ a "standard" teacher and use the statistical relationship to simulate what that "standardized" teacher would have cost in each of the districts of the state. This simulation then serves as the basis for a teacher cost index which may be used to make adjustments to average state-wide teacher salaries in costing out educational programs. Similar kinds of analyses can be performed for other categories of school personnel and other school resources.

The second major source of difference in educational costs arises out of differences in the needs of various student population groups and of students being served in districts and schools of different sizes. Students of different age levels, with different handicapping conditions, with cultural disadvantages or language difficiencies, or with different goals and desires for job training will require different educational technologies and different combinations of resources to meet their needs. Similarly, students living in remote areas of a state where there are insufficient numbers of children to operate schools of economical size may require different intensities of certain resources in order to have access to similar educational opportunities.

In each case, students will require different configurations of resources to meet their educational needs. This is comparable to the different nutritional needs of our two families of differing size and age composition. In this case, we are talking about the differences in the resources required to meet the differing programmatic needs of districts of differing size and pupil composition. It is this component, education cost differences, that is the focus of the present report.

TABLE 8

Long-Run Sources of Variation in Educational Costs

1. Resource Costs. Districts face variations in the prices they must pay to obtain comparable personnel and non-personnel school inputs or resources such as teachers, aides, administrators, energy services and bus fuel.

a. Personnel costs. Personnel cost differences arise because of the variations in the factors affecting the supply and, hence, the equilibrium wages and salaries that local public school districts must pay to recruit and employ comparable personnel for specific types of job assignments. The willingness of individuals to offer their services to a given district will depend upon the quality of life in the local community and the quality of working conditions. Thus, factors such as the variations in the cost of living, facilities, the access to employment alternatives, and the willingness of individuals to offer their services and hence the wages and salaries that must be offered to attract comparable personnel.

b. Non-personnel costs. Districts in different regions will confront different utility rates for alternative heating fuels and for electricity, and they will have to pay different prices for bus fuel as well as for certain miscellaneous supplies and materials.

2. Technology Factors. These are factors that affect the amounts and combinations of resources required to provide appropriate services in different districts.

a. Programmatic need. Different children exhibit different educational needs and often require different amounts and combinations of resources. Handicapped or disadvantaged children may require smaller class sizes or special types of instruction not necessary in regular educational programs.

b. Scale of operation. Districts in sparsely populated areas may have to operate schools at relatively smaller scales and will incur relatively greater administrative burdens and higher transportation costs than more populated districts.

c. Other locational factors. Districts located in colder or warmer regions of a state will incur higher costs of energy necessary to heat and cool school buildings.

Table 8 summarizes long-run sources of variation in educational costs. In addition to these long-run sources of variation, districts often confront differences in educational costs that arise out of short-run changes in enrollments. By short run we mean a period of time over which the district is unable to make immediate adjustments in certain inputs. For example, when there is sudden and unanticipated decline in the level of enrollments, districts may find themselves with excessive amounts of capital--i.e., school building space. They may also find themselves with a teaching staff that is more senior, on average, than they would have otherwise selected primarily because of restrictions on the ways in which staff reductions are distributed among employees according to seniority.

Both of these may represent legitimate costs to the district that have the potential of diverting funds from ongoing educational programs. It is, however, difficult to determine the extent to which these kinds of short-run cost differences arise out of poor planning or management on the part of local district officials as opposed to levels of decline which are truly sudden and unanticipated. Moreover, any kind of compensation provided to districts in these circumstances may inhibit effective and efficient response by local officials. Efforts to make adjustments for such short-run cost differences ought to be tied to well considered estimates of the level of such differences and should be designed to phase out automatically over time.

Although the analysis could be modified to deal with some of these adjustments and methods could be developed to handle the excess costs of seniority, these kinds of adjustments are beyond the scope of the Program Cost Differential component of the RCM as it is now designed.

4.1.4 How is the RCM Constructed?

The RCM contains three basic elements:

(1) Program and service specifications from the state level;

(2) Student enrollment patterns from the district level;

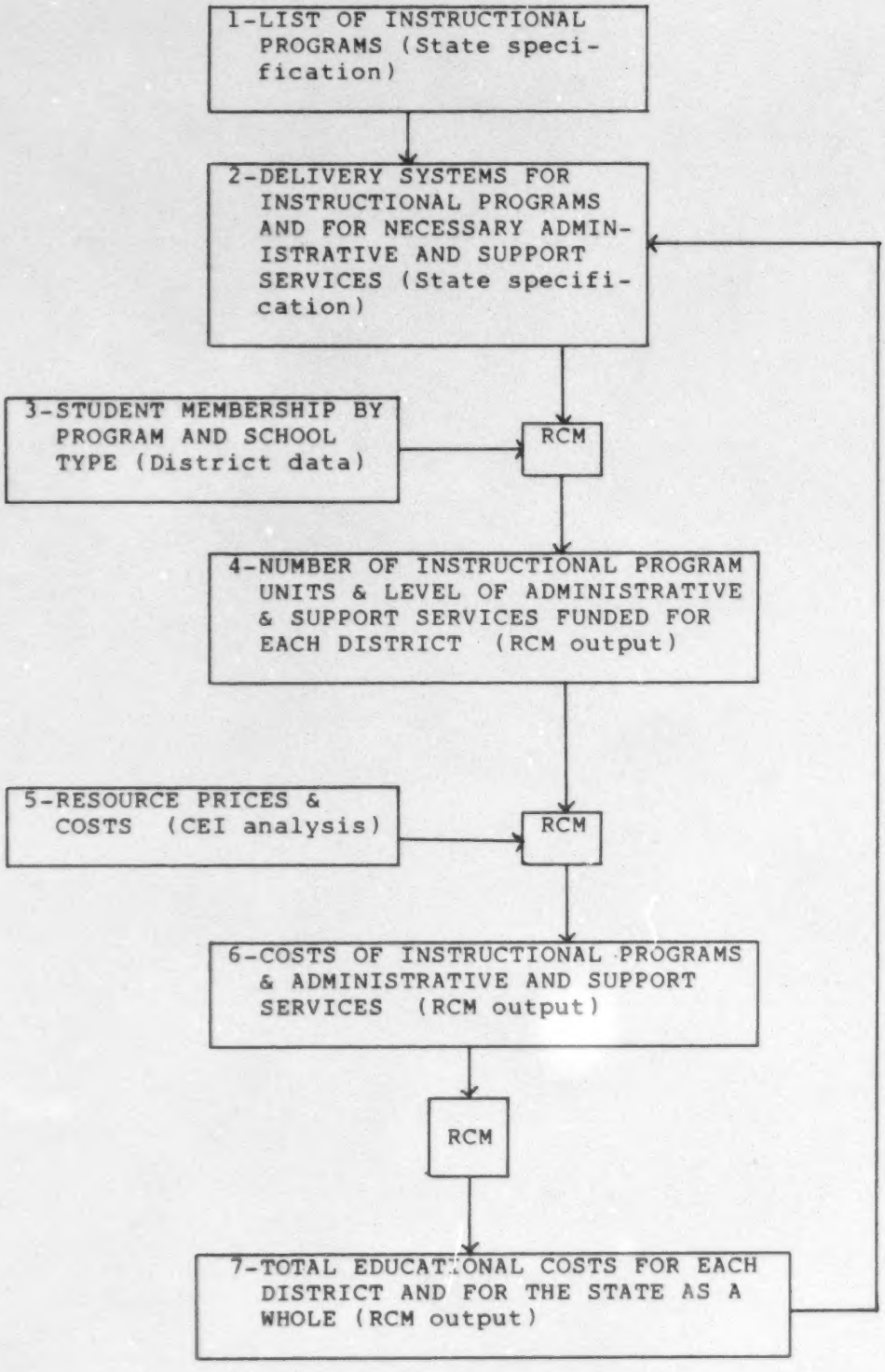
(3) Resource price and cost data from the CEI analysis.

Figure 1 "The RCM Step by Step," is designed to provide an overview of the various steps involved in the RCM analysis.

Box 1. The process for specification of the RCM begins with the development of a list of instructional programs. This list should include the kinds of courses or educational technologies that are to be made available to students within the state. This list is to be a state-wide specification.

Box 2. The second step involves the specification of delivery systems (i.e., resource configurations) that will be required to provide these instructional programs and the administrative and support services which

FIGURE 1


1-LIST OF INSTRUCTIONAL PROGRAMS (State specification)
2-DELIVERY SYSTEMS FOR INSTRUCTIONAL PROGRAMS AND FOR NECESSARY ADMINISTRATIVE AND SUPPORT SERVICES (State specification)
3-STUDENT MEMBERSHIP BY PROGRAM AND SCHOOL TYPE (District data)
RCM
4-NUMBER OF INSTRUCTIONAL PROGRAM UNITS & LEVEL OF ADMINISTRATIVE & SUPPORT SERVICES FUNDED FOR EACH DISTRICT (RCM output)
5-RESOURCE PRICES & COSTS (CEI analysis)
RCM
6-COSTS OF INSTRUCTIONAL PROGRAMS & ADMINISTRATIVE AND SUPPORT SERVICES (RCM output)
RCM
7-TOTAL EDUCATIONAL COSTS FOR EACH DISTRICT AND FOR THE STATE AS A WHOLE (RCM output)

accompany each program category. These delivery systems are also specified state-wide.

Box 3. The third step involves the collection of data on student headcounts (e.g., enrollments) for each program and for each type of school specified in the RCM. The purpose of these data is to determine how many students will be served in each program and in any given type of school for each district in the state.

Box 4. This box represents an output of the RCM computer simulation (represented in the figure by the small box designated simply RCM) and is derived from the data input specified in boxes 2 and 3. Student membership data collected from the districts in combination with the delivery systems specified at the state level are used to determine the number of instructional program units (e.g., classes or courses) and the level of administrative and support services (e.g., the number of school principals, psychologists, and school secretaries) to be funded for each district.

Box 5. Resource prices and costs are derived from an analysis of the variations in expenditures required by different districts to obtain access to comparable school inputs. This is based on the CEI analysis described earlier.

Box 6. The quantities of school resources as determined in box 4 and their costs as determined in box 5 are combined in the RCM computer simulation to determine the costs of instructional programs and the administrative and support services for each district in the state.

Box 7. The RCM computer simulation then adds up all of these costs to determine the total cost of educational services for each district and for the state as a whole. It is this base that then serves as a basis for planning, budgeting and financing of schools.

There is a feedback loop between box 7 and box 2 to reflect the iterative nature of the process of specifying program and service delivery systems. That is, the RCM output can be used to determine what the state budget would have to be to fund the specified programs throughout the state. If, for example, this estimated RCM budget differs from the intended allocation that is likely to be made available for educational services by the state legislature or if the model were being used to simply simulate cost implications of several alternative specifications, programs and services could be respecified. This analysis could also be used as a source of information and input into the overall budget process in considering the relationship of the educational budget to non-educational portions of the public budget. The RCM provides direct linkage between services and dollars and thereby provides a valuable benchmark in determining how the dollars would or could be spent in comparison with non-educational dollars.

4.1.5 What Does the RCM Do?

The output of the RCM provides systematic information regarding the variations in the costs of providing a standardized educational program across all school districts. It is a standardized program that recognizes the educational and programmatic needs of special student populations. Furthermore, the resource requirements associated with necessary small schools and districts in remote regions, as well as the costs of employing comparable school resources in various programs across the state can be determined. Table 9 summarizes the types of outputs derived from the RCM simulation program.

The RCM will reflect differences in instructional program costs due to differences in class sizes and caseloads, as well as the quantities and types of personnel, supplies and materials, special equipment and other miscellaneous resources. In administrative and support services, the RCM reflects the different intensities of administrative and support services attached to different kinds of programs and the different administrative and support configurations required for different types of schools and district services. Finally, the RCM output reflects differences in the costs of comparable personnel, of comparable levels of energy services, and of home to school transportation necessitated by the distributions of student populations.

4.2 IMPLEMENTING A RESOURCE COST MODEL APPROACH

School finance formulas containing some form of a linkage between state funds and specific educational resources have been described in Chapter 3 of this monograph for the state of Georgia, South Carolina, and Washington. If a state were to utilize the full resource cost model approach, however, how might they proceed? Studies of this kind are currently being conducted in the states of Oregon and Illinois. In Oregon, resource configurations are being specified for all of the programs offered in the state under the program category of special education and is being done independently of the CEI component which has not been estimated for the state. In Illinois, the full resource cost model approach is being estimated across all of the public education programs in the state as a component of the Illinois State Board of Education (ISBE) Public School Finance Study.[13]

As the processes and procedures involved in the actual specification of resource configurations for the educational programs in a state are a very important component of the overall derivation of the RCM, a brief account of these steps will enhance the description of this model. The estimation of the program component of the RCM requires four major stages.

The first step is primarily instructional and informational. Literature must be distributed and workshops held for the various participants in the specification process as well as for other individuals who may be tied in some way to the educational policymaking network in the state. The primary thrust of these workshops is to introduce the methodology to the state and to provide general information as to the forthcoming specification procedures. Programmatic experts are asked to describe and categorize educational programs in a very specific and yet limited way. While this approach to program description and categorization appears alien to many educators at first, the

TABLE 9

Outputs of the RCM Simulation Program

1. Descriptive information on district input data.

   - Enrollment patterns by grade level, programs and school type.
   - Resource cost indices for each input category.

2. Outputs of the RCM computer simulation.

   - Number of instructional program units to be funded for each program listed.
   - Total staff and staffing ratios for each category of personnel.
   - Per unit and per pupil costs of instructional programs.
   - Per unit costs of instructional programs and program administration and support services by program category.
   - Number of school units funded by school type.
   - Average costs per school unit and per pupil of school administration and support services by school type.
   - Average costs per pupil of district administration and support services.
   - Total cost of educational services.

Note that each of the types of data described above may be presented for each district in the state as well as for the state as a whole.

experiences in the states listed above, as well as experimental field studies conducted by the authors in the states of Florida and Arizona indicate that after a relatively brief training session, program experts can break down instructional programs into categories on the basis of the educational resource specifications these programs require.

The second step is the formation of the program specification committees. A separate committee is required for each of the recognized program areas of a state for this initial stage of specification. These committees may be comprised of about three to six members and have responsibility for the initial specification procedure. They must derive a list of instructional resource program configurations that will at least approximate the full range of specifications appropriate to their particular program areas. Beyond this, each of these program committees will also need to specify program administration support structures for their particular program areas. In addition, program areas having their own schools, and in some cases districts, will also require the specification of school and district administrative structures. The initial program committee for general elementary, for example, will be required to specify "appropriate" administrative support services at the school and district level, as well as program administration and the list of instructional programs appropriate to this program category.

Once all of the program committees have completed the initial specification of instructional programs and administrative structures, the third step is to derive the required data for the model. One major data set that the final estimation of an RCM for the state will require is the sets of cost indices for the most significant educational resources for all of the districts of the state. These will be acquired through a completely separate set of procedures, used to estimate a CEI for the state, which was partially described above.

Two other sets of data items particularly relevant to the program specifications must also be derived prior to the final estimation of an RCM. The first is average price data for each of the major educational resources listed in the program configurations. As the general categories of educational resources such as supplies and materials and special equipment are already specified in dollars, this step will not be required for a highly detailed list of resources. It will be required, however, for the different categories of personnel to be delineated, and for fuel and energy. Gathering these average prices, to then be adjusted by their respective cost of education indices for each district, will generally be a fairly straightforward procedure.

The second of these other sets of data requirements represents a more formidable task. District enrollments, or head counts, must be determined for each of the instructional programs listed in the initial list of RCM specifications for each program category. If a state were to adopt the RCM as a component of ongoing state policy, this procedure could be easily incorporated into the existing data gathering mechanism. Currently, however, few program areas in the states report enrollments on the basis of the specific sets of educational resources their courses require. Thus, one last job for the program committee members is to convert the enrollments for their program areas, as they are currently reported, into estimates of how these

numbers would allign themselves into the specified program category configurations.

With all programs and administrative structures initially specified and the data outlined above gathered, the way is set for the meeting of the larger RCM Committee. This committee generally will be comprised of approximately 15 members. It will include representatives from each of the program areas in the state, school finance experts from the state department of education, representatives from the Bureau of the Budget, legislative analysts and other persons as deemed appropriate. It is important that this committee should not be so large as to become unwieldy. Each member should be representative of some larger category of educational interests in the state so that a broad spectrum of interests will be reflected on the committee.

The job of the RCM Committee will be to specify the final set of configurations to be used for deriving the overall RCM for the state. As a first step in this process, the final sets of program specifications, as drawn by each of the program committees, will be published and circulated for the review of all of the RCM Committee members. Utilizing the RCM computer program, a simulation can be run to determine the initial budget shares falling to each program category on the basis of the first-round program specifications they have submitted to the RCM Committee.

At this point, the interactive process between the various committee members can begin, whereby budget shares and the specifications of the various programs are compared to the status quo in the state and are generally defended and supported by the individual program committee representatives. The impacts of various trade-offs, cutbacks and respecifications can be determined through the continuing use of the simulation procedure to derive an agreeable balance throughout the program areas.

Ultimately, the specifications must reflect in some way the total sum of resources available for public education in the state. How these will be allocated, however, can now be based on the variations in costs districts face in providing the educational programs their student enrollments warrant. What levels of resources are appropriate for the various educational programs will be derived through an interactive process at the state level which considers the needs of all of the educational program areas simultaneously.

One interesting result of this process as observed in Illinois thus far, is the inevitable competitive orientation of this process. In deriving the program specifications, program personnel become aware of the eventual requirement to justify and defend these specifications before the representatives of the other program areas and the other members of the overall RCM Committee. This forces the careful consideration of the actual needs of their program areas in terms of specific resources, and forces the consideration of the rationale underlying these needs. Indeed, even in the preliminary program category meetings a certain level of interaction between the representatives of particular instructional program areas is observed.

There are demands for parity and equity in the distribution so that the resources to be specified for any single instructional program are not out of line with those received by the other programs. We make no claim that educators who engage in this process will diminish their demands for additional resources for education, but the preliminary evidence suggests that these demands will be founded on more specific criteria and demands made by a particular program category will be forced to pass the close scrutiny of all of the other competing educational programs which the state is attempting to support.

4.2.2 Specification of Program Content

In addition to the specification of the resources associated with educational programs, adequacy necessitates some attention to course content. A number of different kinds of courses can be produced using identical delivery systems. For example, basic mathematics, social science, and English courses are likely to require similar combinations of resources. However, content in terms of the skills taught are obviously quite different.

Therefore, in considering the adequacy of educational programs, it will be necessary to specify the composition of different kinds of courses to be included in groups of delivery systems. Although the delivery systems might be identical, schools offering only a basic core of academic programs (e.g., only basic math and English) must be considered as providing different levels of educational adequacy than schools offering a much wider variety of courses in math and English as well as in the physical and natural sciences, foreign languages, visual and performing arts, etc.

Policymakers must also decide the extent to which they want to permit student choice to influence the resources provided to local educational agencies and hence the programmatic costs. Some secondary students will select high school programs directed toward college preparation as opposed to vocational or general high school programs. There are likely to be some differences in the costs of these alternative programs based on the configurations and costs of resources employed in producing the instructional units associated with each. If policymakers were to rely on actual assignment patterns of students to programs, then these cost differences would appear. However, standardized assignment patterns would tend to miss some of this variation in program cost because of the inability of policymakers to precisely trace the actual patterns of student enrollment.

4.3 POLICY PERSPECTIVES ON A RESOURCE-COST APPROACH

A resource-cost based approach to the development of funding formulas for education has a number of major advantages. First, it is a comprehensive approach to the determination of educational costs and provides a basis for the distribution of funding to local and state educational agencies. The analysis emphasizes variations in costs arising out of factors that may be

considered beyond the local control of educational agencies in the provision of services. The approach captures variations in service costs due to differences in the prices of school resources, differences in the programmatic needs of various student populations, and differences in the sizes of districts and schools in which services are provided. At the same time, the approach is flexible enough to handle potential short-run variations in service costs arising out of enrollment declines. For example, the approach can be modified to account for the additional costs that particular districts may incur due to their inability to make immediate adjustments in facilities and the composition of teaching staffs in response to sudden changes in enrollments. Because the approach ultimately relies upon the judgments of policymakers for the determination of the resource configurations, it requires systematic consideration of which factors are matters of choice and which are beyond local control with respect to the various sources of differences in costs.

A second advantage to this approach is that programs are the unit of analysis rather than students per se. Changes in the costs of services result from changes in the required number of program units to serve student needs. Changes in the number of students at the margin may not have any effect on costs because of the discontinuities in the way educational services are produced. For example, is a district reported that it had 20 pupils to be served in special classes for handicapped children for which the maximum class size was ten pupils, then it would offer two units. Should that same district have 21 such pupils, then to operate within the restriction of the maximum class size, a third unit would have to be offered. But the twenty-second such pupil in the district would add only negligibly to costs (perhaps through supplies and materials if at all) because no additional instructional unit would be required. In contrast to this, a weighted pupil approach tends to treat each additional pupil identically with respect to additional costs.

Another advantage to this resource cost-based approach is that students generate costs due to the programs in which they are served and not due necessarily to their specific classifications. Often in pupil weighted systems, student classifications become the source for additional funding. However, it turns out that students that are often classified the same (e.g., with respect to handicapping conditions or grade levels) may be served in quite different educational programs. For example, some emotionally disturbed students are served entirely within special classes while others are served part time in regular classrooms and the remainder of the time in special resource rooms. The problem that arises is that the student classification itself often becomes the basis for cost analysis rather than the programs in which they are served. As we have pointed out previously, evidence from the state of Florida suggests considerable variations in the costs of serving students classified by handicapping conditions across different districts.[14] This implies that different districts are serving these students in a variety of different programs based on more direct assessments of pupil needs at the local level.

The resource cost-based funding approach provides federal, state, and local policymakers with a framework within which to think systematically about what an adequate educational program should look like for different kinds of children. It also provides a way in which policymakers might consider relationships between educational inputs and the outcomes of the system. The approach does not ensure that the distributions of resources to different districts or to the different kinds of pupils they serve will result in similar "life chances" or even similar educational outcomes for all children. This goes right to the heart of how one defines the concepts of adequacy and equity in educational funding. At best, the approach ensures that with respect to funding, similar students will be treated similarly and different students will be treated differently where these differences have been specifically defined by educational policymakers and identified by local school officials. Nevertheless, it becomes the responsibility of these policymakers to identify (1) the kinds of differences in pupil needs that will be recognized and (2) the differences in the program configurations that are "adequate" to meet these different needs.

RCM analyses can be used by policymakers to trace out the relationships between potential patterns of service delivery and costs. That is, it traces out the opportunity set facing policymakers. This information could be used to arrive at final budget figures based on the willingness of policymakers to spend money to provide certain kinds of educational services. Policymakers are required to think systematically about what the appropriate input configurations are to provide adequate educational services and to make comparisons against alternative uses both within and across programs. From this perspective, it should be clear that one cannot consider the funding of various programs in isolation from one another; they must be considered simultaneously.

Policymakers will have to confront two kinds of trade-offs: those <u>across</u> programs and those <u>within</u> programs. First, they will have to make some judgments about relationships between educational outcomes and inputs. Clearly, there is not likely to be much objective information upon which to base such judgments. Nevertheless, some perceptions of what the educational process yields in terms of outcomes for these various programs will have to be considered seriously in the debate. Professional judgments and discussions with the education professionals providing the services will have to be made to begin specifying these programs.

Such a systematic framework for discussion may, in itself, present a difficulty. Policymakers may not want these previously implicit trade-offs made so apparent to "outsiders" who might evaluate their judgments. Any changes in the resource configurations from one year to the next or from one proposed budget to the next reveals explicitly the nature of the trade-offs that have been made, not just in dollar terms (as is currently possible), but also in terms of the specific resources and services being delivered to various types of children. Making these kinds of trade-offs so apparent may have certain political liabilities. Without more objective information on the educational effects of these trade-offs, the numbers become open to widely

varying interpretations by various interest groups and political constituencies and create potential difficulties for legislators considering budget allocations.

This does not mean that the resource cost-based approach cannot be used in this context. Some policymakers may welcome this kind of framework for decision making. However, it may suggest that the most appropriate stage of the budgetary process for the implementation of this model should be carefully considered and that the ultimate funding decision made by a legislative body might be simplified so as to avoid some of the technical arguments over educational program specifications and the political difficulties that could arise from these decisions.

4.4 IMPLICATIONS FOR THE FEDERAL, STATE, AND LOCAL ROLE IN SCHOOL FINANCE

The emphasis of the resource cost-based approach to school funding is on how children are served in school--i.e., what kinds of resources are employed, what the nature of the curriculum content is, and generally on how services are delivered. A number of states have already implemented systems based on this concept while many others are considering reforms that would move in the direction of a resource-cost based system.

When considered from the larger perspective of the federal role, the resource-cost based approach could facilitate the implementation of a more integrated system of school funding. The idea would be to develop a resource-cost base from which funding levels could be determined. Estimates of the costs of providing "adequate" educational services to various student populations could be built from the district level to the state, and from the state to the federal level. This would provide an estimate of the costs to the nation of providing what states and local educational agencies have determined to be adequate levels of educational services and resources. Even if the resource configurations used to define educational delivery systems differed at each level of government, the basic framework for assessing and measuring the costs of services would be consistent. The system could permit a certain amount of diversity in the way educational services were actually delivered in different regions or states, while maintaining some consistency in the funding mechanisms for distributing dollars to state and local educational agencies.

What is being proposed here does not necessarily involve additional levels of funding at the federal, state, or local level. Nor does the proposal for the development of a set of educational resource standards necessarily require increased centralization of authority. Rather what it is intended to do is build a greater degree of rationality into the basis for distributing funds from the federal level to the states and from the states to the local districts. Moreover, the approach does not preclude either a block grant or categorical funding mechanism. All that it does do is base funding distributions on estimated costs of delivering some standardized sets of programs designed to meet the needs of various student populations. It provides a basis from which the effects of certain funding decisions can be

assessed in terms of at least the potential effects on service delivery. The actual linkage between the resource standards that underlie the funding formula (i.e., the RCM) versus those used in service delivery would remain an open question to be resolved at the state and local level.

The local educational agency (LEA) would be held responsible for formulating and implementing plans for service delivery within the guidelines (if any) established by the state and federal authorities. Plans for service delivery along with projected enrollment patterns of students in programs would be submitted to the state and/or federal authorities (in some instances through the state). The LEA would also raise some portion of the revenue required to provide services.

The state educational agency (SEA) would establish guidelines for service delivery systems and would be responsible for designing a school finance system that ensures each child of receiving "adequate" educational services. The state can then establish the division of revenue among state and local sources and the extent of local control over the actual allocation of revenues and the overall level of revenues for educational services. It is at this stage that state decision makers establish what an "adeuate" level of services is and the extent to which the state is willing to commit itself to ensure the access of each child to that level of services. The cost of an adequate education is based on state established standards of service delivery, the resource prices established through cost of education adjustments developed for each district, and the program enrollment levels reported to the state by each district.

The federal role involves assisting state agencies in the establishment of reasonable guidelines for adequate educational services and in the provision of financial support. The federal government should be actively involved in supporting research efforts on issues related to program design and evaluation and on the relationships between program design and school funding mechanisms. This kind of research and development would be important in providing guidance to state authorities, particularly smaller states with only small amounts of resources available for R&D. Research and development would also be of significance in integrating state and federal mechanisms for school funding.

Districts would report program enrollments either directly to federal authorities or through their state authorities to the federal agencies. The federal government would establish standards for educational delivery systems and then would cost out the designated levels of educational services for each district. Such standards for service delivery would be used as a basis for funding and for determining appropriate distributions among states or localities. These standards need not be used as the basis for actual service delivery at the local level. The federal government would provide funding based on some fixed percentage of programmatic costs with different percentages being applied to different programs. Relatively higher percentages could be attached to programs which have been the focus of federal categorical

grants (e.g., disadvantaged, handicapped, or vocational programs). Indeed, the programmatic emphasis need not be redirected from its current focus.

Federal authorities would nevertheless have to establish guidelines for adequacy in serving educational needs. Furthermore, they would have to determine the percentage of costs on which the federal funding would be predicated for students served in different programs. Again, this does not require additional funding, but only a more rational basis for distributing existing levels of support. States would establish guidelines inside their boundaries, presumably within the overall guidelines (if any) established by the federal government. Finally, local districts would develop plans for implementing educational programs within federal and state guidelines for serving the various student populations. The guidelines could be designed to offer alternative ways of serving different types of children, but the emphasis could be on service delivery rather than pupil classifications per se which often provide no information regarding childrens' needs or how they should be served. Federal funding would be based on standardized configurations for the program delivery system alternatives and would reflect differing prices of educational resources faced by districts in different parts of the country. Priorities for different student populations are established both through the selection and establishment of the program standards and the percentage of funding provided by the federal government. At one extreme this approach would require that districts would have to assure the federal government that the students were in fact being served in the programs in which the enrollments were reported, while at the other extreme only estimates of program enrollments would be used by federal authorities and districts or states could use the funds any way they choose. Reality probably lies somewhere in between these two extremes.

The state agencies would determine how the remainder of the costs would be divided up among the state and local share. This could be accomplished on the basis of a foundation plan, a guaranteed tax base formula or some other mechanism for distributing state education funds to local districts. Moreover, these arrangements would still permit local school districts to provide services in excess of the level determined as "adequate" within the federal or state program specifications. Such arrangements would vary across states according to local preference. This kind of centralized system of educational finance could reduce administrative costs at the federal, state, and local level, while maintaining local discretion on both the total amount spent for educational services and the development and implementation of program plans for serving various student populations.

4.5 CONCLUDING REMARKS

What constitutes an adequate education is a matter for local policymakers to decide and will be different at different points in time and in different locations. However, what becomes critical is the process by which adequacy is determined and whether in fact the issues are considered in a way which requires policymakers to determine adequate standards. Adequacy of

educational services will be determined by the way in which the "requirements" are set. That is, if the requirements are set with social and educational outcomes in mind, if they relate to the services as opposed to the dollars delivered to children, and if there is some kind of systematic framework that permits policymakers to begin to relate the two components, implicit adequacy standards will result. The requirements will have been considered, the resources believed sufficient to attain them specified, and their provision assured, thereby resulting in an overall system that is sufficient to meet the requirements, or "adequate."

In this final chapter we have attempted to establish a framework for including adequacy and equity standards in the mechanism used to fund public education. This framework develops a common approach to specifying the services and service costs for different student populations and it facilitates the integration of the school finance systems developed at the federal, state, and local levels. Finally, it is a framework that provides a foundation for the kinds of discussion required of policymakers to begin to consider and define in tangible terms the adequacy standard in education.

FOOTNOTES

1. For a more extensive discussion of these issues and a more concrete formulation of the social decision problem, the reader is referred to Levin (1975).

2. A foundation program is a school finance system which establishes that every local school district provide at least some minimum level of services (usually specified in terms of dollars). The responsibility for supporting this minimum service level is divided into state and local shares in such a way that poorer school districts pay a smaller absolute share than wealthier school districts. Wealth in these cases is usually based on local property wealth.

3. The Peabody Fund was established in 1866 by George Peabody, an American living in London, by a grant of two million dollars for the advance of education in the southern states. The spirit of the fund was, "to help those who would help themselves," and it was used to aid graded free schools, city schools, and summer schools for teachers. Dr. Sears was the first agent of this fund.

4. By David Tyack, educational historian, Stanford University, in a personal interview with the authors.

5. Although this figure has shown a decline over the past decade to 3.65 percent of the GNP for the 1978/79 school year, using total expenditures for the 1969/70 school year from the Condition of Education, 1980/81, and the GNP for 1979 from the World Almanac, 1981).

6. See, for example, the standard cited in Pauley v Kelley given earlier in this paper. Another example is the definition of adequacy as provided by the Michigan Superintendent of Public Instruction, "sufficient support to make it possible for every child to develop every capacity to his maximum potential" (Wilensky, p. 43). In a recent debate at Stanford University, previous Secretary of Education, Shirley M. Hufstedler, repeatedly cited the standard of "all of the nourishing, loving, and caring that is required."

7. Although some states specified certain kinds of educational services for handicapped children as early as the 1920's, many physical and most learning handicaps did not receive a great deal of legislative attention until the early 70's. By 1975, state support for special education totalled more than two billion dollars and served about three million students. By the 1979/80 school year, these figures had risen to 3.4 billion dollars for approximately four million handicapped children.

8. The following sources were used for the data reported in this paragraph: Johns, Alexander and Jordan, P. 19; Kelly, 1981; and NEA estimates from the Standard Education Almanac 1980/81.

9. Ex ante refers to the neutrality of the funding approach in principle, while ex post refers to the resulting level of neutrality between expenditures and local property wealth once the plan is actually in effect. A plan that is wealth neutral ex ante may fail in this regard ex post. A more detailed discussion of this distinction will follow later in this chapter.

10. Reported to the authors by Dr. James Spartz, State Director of Finance and School Services in a telephone interview.

11. These values are based on average teacher salaries for the 50 states for the year 1978/79 as is listed in the Digest of Educational Statistics, 1980. As the average salary of instructional staff in the State of Alaska for 1978/79 was $22,185, the index value of 1.48 is derived by dividing that figure by the national average salary for instructional staff of $14,955.

12. It is assumed here that a nutritionist could define some appropriate combination of vitamins and minerals that could be regarded as a nutritious diet for different individuals. That there would be disagreement among experts as to precisely what this would entail is acknowledged. However, the important concept for our purposes is that we can accept only one specification of nutrients for the sake of illustration.

13. The Illinois study is being conducted by the authors of this monograph under the auspices of the Associates for Education Finance and Planning, AEFP.

14. Note that these observed variations in Florida are significantly greater than one would anticipate based on differences in the total number of pupils in the category being served which would affect costs of services related to scale.

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